Canada Lancet
v.29, no.11

STORAGE

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A Monthly Journal of Medical and Surgical Science, Criticism and News.

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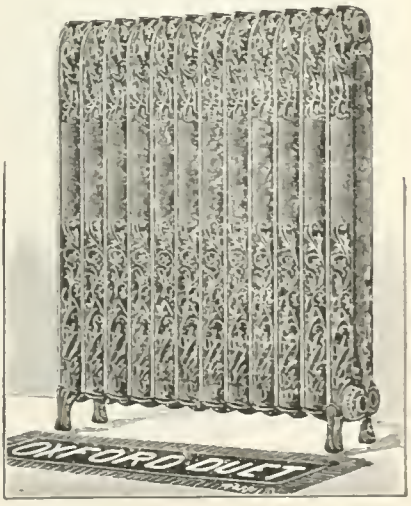

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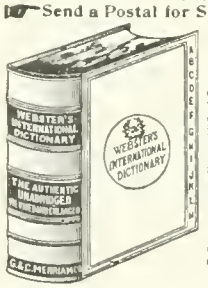

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ANTITOXIN IN THE TREATMENT OF LARYNGEAL DIPHTHERIA,*

WITH AN ANALYSIS OF 991 CASES OF LARYNGEAL DIPHTHERIA UNDER PERSONAL OBSERVATION.

BY DILLON BROWN, M.D., NEW YORK.

Professor of Pediatrics in the University of Vermont and Adjunct Professor in the New York Polyclinic; Physician to the City Children's Hospital, etc.

In discussing the value of any treatment for diphtheria it is necessary to consider this disease separately as it involves the larynx and as it involves the naso-pharynx. For all therapeutical purposes we have practically two distinct diseases, although the cause may be the same. In the laryngeal type the danger is from asphyxia, either from laryngeal obstruction or, when this is overcome, from an extension of the membranous inflammation to the smaller bronchi; and the danger from sepsis is not great because of the meagre lymphatic supply in this region, and the small area of surface from which absorption of toxines can take place.

On the other hand, in naso-pharyngeal diphtheria the danger from mechanical obstruction is slight, and the fatal cases are, almost without exception, the result of the absorption of poisons through the abundant lymph and blood supply. This is especially true of the nasal cases, as in this region not only is the blood and lymph supply very abundant, but it

*Read before the Trinity Alumni Association of Toronto and also published in the St. Louis *Medical Fortnightly.*

is almost impossible to obtain good drainage when the nasal mucous membrane and the turbinated bones are swollen.

Again, in laryngeal cases the disease is rarely the result of a mixed infection, but naso-pharyngeal diphtheria, as we see it in practice and not in the laboratory, is frequently due to a mixed infection. The importance of this from a therapeutic point of view is evident when we consider the difference between infection by Klebs-Loeffler bacilli and by streptococci. The point is that in streptococcus infection the germ itself finds its way into the blood and viscera, and this is rarely true of the bacillus in Klebs-Loeffler infection. In one case you have a toxin only to fight, and in the other you have both the germ and its toxin.

Although we must admit that there are many unsolved therapeutical problems in connection with the antitoxin treatment of *naso-pharyngeal* diphtheria, there can be no doubt of its almost specific value in the *laryngeal* form of this disease. The laboratory proof is absolutely convincing as far as it goes, namely, that the serum in proper doses is a specific for preventing the harm which follows the absorption of the toxin of the Klebs-Loeffler bacillus. The clinical results confirm this conclusion.

I can do nothing stronger to uphold this conclusion than to give a short analysis of the cases of laryngeal diphtheria which I have seen during the past twelve years. I have arranged them from September to September, so that the cases for each winter will be kept together. With but few exceptions (less than a dozen) they have been seen in counsel with other physicians, and, since the antitoxin days, the diagnosis has been confirmed in nearly every case by a bacteriological examination by the New York or Brooklyn Board of Health.

INTUBATION CASES.

	Number.	Recovered.	
July, 1885, to September, 1886,	37....	7, or 18.9 per cent.	
Sept., 1886, " 1887,	65....	15, " 23.0 "	
" 1887, " 1888,	89....	28, " 31.4 "	
" 1888, " 1889,	95....	31, " 32.6 "	
" 1889, " 1890,	63....	19. " 30.1 "	
" 1890, " 1891,	63....	23, " 36.5 "	Began here
" 1891, " 1892,	117....	40, " 34.1 "	with calo-
" 1892, " 1893,	84....	32, " 38.0 "	mel subli-
" 1893, " 1894,	76....	29, " 38.1 "	mations.
" 1894, " 1895,	57...	25, " 43.8 "	Began here
" 1895, " 1896,	30....	17, " 56.6 "	with anti-
" 1896, to April, 1897,	20....	18, " 90.0 "	toxin.
Total.....	796.	284, or 35.6.	

September, 1894, to September, 1895:

13 cases with antitoxin and 5, or 38.4 per cent. recovered.
44 " without antitoxin, 20, or 45.4 " "

September, 1895, to September, 1896:

27 cases with antitoxin, and 17, or 62.9 per cent. recovered.
3 " without antitoxin, and 0, or 0 " "

September, 1896, to April 1st, 1897:

19 cases with antitoxin, and 18, or 94.7 per cent recovered.
1 " without antitoxin, and 0, or 0 " "

The following table shows the results with or without calomel sublimations in all cases of laryngeal diphtheria up to September, 1894, or the beginning of the antitoxin treatment, and the results since antitoxin was used.

PREVIOUS TO NOVEMBER, 1890.

358 Intubations; no fumigations: 101, or 28.2 per cent. recovered.
44 No intubations; no fumigations: all recovered.
16 Died before my arrival.
10 Refused operation and died.
8 Died of sepsis with only slight obstruction.

NOVEMBER, 1890, TO SEPTEMBER, 1894.

(Beginning of Calomel Sublimations to Antitoxin Treatment.)

84 Intubations; no fumigations; 20, or 23.8 per cent recovered.
247 " fumigations; 103, or 41.7 " "
6 No intubations; no fumigations; all recovered.
36 " " fumigations; all recovered.
17 Died before my arrival.
9 Refused operation and died.
8 Died of sepsis with only slight obstruction.

SEPTEMBER, 1894, TO APRIL, 1897.

(Antitoxin Treatment Period.)

48 Intubations; no antitoxin; 20, or 41.7 per cent. recovered.
59 " antitoxin; 40, or 67.8 " "
9 No intubations; no antitoxin: all recovered.
18 " " antitoxin; all recovered.
5 Died before my arrival.
4 Refused operation and died.
5 Died of sepsis with only slight obstruction.

SUMMARY.

442 cases; intubation; no calomel sublimations: 121 recovered, or 27.3 per cent.
295 " intubation; with calomel sublimations; 123 recovered, or 41.6 per cent.
59 " intubation; with antitoxin: 40 recovered, or 67.8 per cent.
50 " no intubation; no calomel sublimations: all recovered.
45 " " " with " " " "
18 " " " with antitoxin: all recovered.
38 " Died before my arrival.
23 " Refused operation and died.
21 " Died of sepsis with slight laryngeal obstruction

991 cases.

It is interesting to note the steady improvement in results as our knowledge of the technique of intubation increases, and as we learned from experience to overcome, with greater success, the dangers and accidents of intubation. The marked improvement after calomel sublimations were used, and the still greater success after antitoxin, are noteworthy. This benefit is seen not only in the larger number of recoveries after operation, but in the increased percentage of cases which recovered without an operation. Thus, of

492 cases: no sublimations; 50 recovered without operation, or 10.1 per cent.

340 " with sublimations: 45 recovered without operation, or 13.2 per cent.

77 " with antitoxin: 18 recovered without operation, or 23.3 per cent.

Of course even this underestimates the good results, for the percentage of cases under calomel sublimations or the antitoxin treatment, which recover without operation, is very much larger. Since the introduction of antitoxin many cases recover and are never seen by the consultant, which in former years would have undoubtedly come under his notice.

The apparently bad results after the use of antitoxin from September, 1894, to September, 1895, were probably due to two causes: inferior antitoxic serums and insufficient doses. A careful consideration of the cases during this period fails to show any marked difference in severity between those that received and those that did not receive antitoxin.

New York, 40 East 57th Street.

SALICYLATE OF METHYL.—At the last meeting of the Société Médecale, M. Lemoine said, *Med. Press and Circ.*, he treated nine cases of acute rheumatism by painting the inflamed joints with salicylate of methyl as recommended by Sinossier and Lamois, with uniform success. The essence of wintergreen applied to the cutaneous surface acted in the same way as salicylate of soda taken internally, but seemed to more rapidly diminish the suffering. With a dose of from one to two drachms no vertigo nor noises in the ears were experienced. The drug was eliminated by the urine in the form of salicylic acid, and equal to a tenth of the quantity applied. His method was to sprinkle the desired amount on a linen compress, and to cover it with a sheet of guttapercha, the whole maintained in position by a bandage. When the application could not be made directly *loco dolenti*, he placed the compress as near as possible to the root of the limb. The good results obtained seemed to be chiefly due to the cutaneous absorption through the general circulation.

M. Sireday considered that the essence of wintergreen had more effect on subacute and chronic rheumatism than salicylate of soda. The drug gave him also satisfaction in the treatment of the fulgurating pains of locomotor ataxy, and of Pott's disease.

Hyoscine in the dose of $\frac{1}{100}$ of a grain is of much value in the treatment of nocturnal emissions.—*Hare.*

MEDICINE.

IN CHARGE OF

N. A. POWELL, M.D.,

Professor of Medical Jurisprudence and Lecturer on Clinical Surgery, Trinity Medical College; Surgeon to the Hospital for Sick Children, and to the Extern Department Toronto General Hospital; Professor of Surgery, Ontario Medical College for Women. 167 College St.; and

WILLIAM BRITTON, M.D., 17 Isabella Street.

A VISIT TO BAD NAUHEIM, WITH THE PURPOSE OF INVESTIGATING THE "SCHOTT TREATMENT" FOR CHRONIC HEART DISEASE.

BY C. N. B. CAMAC, M.D., FIRST ASSISTANT RESIDENT PHYSICIAN.

Last November, at Dr. Osler's suggestion, we undertook to introduce into the hospital the Schott treatment of exercises and medicated baths for cases of chronic heart disease. After consulting the bibliography of the subject, several cases were placed under treatment according to the instructions contained therein. At once, however, we were confronted by numerous questions, answers to which it seemed quite impossible to find in any of the references at hand. Although the literature dealt at length with changes in the cardiac outline, the position of the cardiac maximum impulse and the respiration, the theories upon which the beneficial effects were based, etc., no answers to such practical questions as the following were given:

(1) Is any massage to be employed during or after the bath?

(2) What drugs are to be employed during the treatment, and what drugs are contraindicated?

(3) Should the baths and exercises be given together; or if separately, which should precede?

(4) Are stimulants to be administered before or after the bath?

(5) What should be the diet of the patient?

(6) Are cases of hydrothorax or ascites to be tapped? etc., through quite a list with which it is hardly necessary to weary you.

Finding many of these questions unanswered, it was with considerable interest that I received Dr. Osler's suggestion to visit Bad Nauheim, the home of the treatment and of Dr. Schott, its originator.

Nauheim is in the Grand Duchy of Hesse, three-quarters of an hour from Frankfurt a. M., and two hours from Homburg. Nearly in the centre of the northeastern half of what geologists have called the Mayence Basin (Mainzerbecken) Frankfurt is located, and at the eastern slope of the Johannesburg, the last spur of the Taunus mountains, is situated Bad Nauheim. As one approaches Nauheim he is struck by the great trestlework structures in the midst of the fields. On examining these more closely they are found to be frame structures about 200 to 300 feet

long and about 50 feet high, supporting switches closely stacked one upon another. The salt waters are raised to the top of these trestles and allowed to filter through the interlacing switches, upon which, by the evaporation of the water, the salt is deposited. These switches are removed every few months or so, the salt broken from the branches, ground and refined, and serves as the commercial salt of the surrounding country. The most beautiful forms result from these deposits, and by the clever devices of the natives the most grotesque figures are produced. I have some of the figures thus produced.

An estimation of the commercial value of these works to-day may be made by the value put upon them in 1806, when they were considered by Napoleon an adequate reward to Marshal Louis Nicolas Davout (erroneously written Davoust) for his services in the French army: and again in 1866, when they fell to Hesse Darmstadt in exchange for Homburg. Since 1834 the reputation of Nauheim for the efficacy of its springs has been steadily coming to the notice of Europeans. Frankfurt up to this time forming the centre and battlefield of many of the German disputes with France, rendered Nauheim scarcely a fit place for invalids.

It was therefore not until 1834 that we begin to hear of Nauheim as a resort for invalids. It was not until 1860, however, that Dr. Beneke of Marburg considered scientifically the value of the medicated bath treatment. From 1859-1870 several articles by Beneke of Marburg, upon the waters of Nauheim, appeared in the *Berlin Klin. Woch.* From 1870 to 1890, August and Theodore Schott and J. Groedel were frequent contributors on this subject to the *Berlin Klin. Woch.*, also to the *Deutsch Med. Zeitung.* August Schott died, but his brother Theodore continued the work, and published in 1892 an article in the *Lancet* which caused little comment.

In 1894 W. Bezley Thorn became an ardent advocate of the bath treatment, and published an article in the *Lancet* and also a small book in which he described quite fully the baths and exercises. With the appearance of this systematic little book up to the present the treatment has been very popular in England Nauheim, its waters, and the resistance exercises, have been frequent topics in English and German medical journals. In France and America the treatment has as yet received no very thorough trial. It is interesting to note here the increase in the number of visitors from 1871 to 1895. In 1871 the visitors numbered 5,249: in 1891, 9,244; 1892, 10,272; 1893, 10,384; 1894, 11,681; 1895, 14,136.

Although the season was over when I visited Bad Nauheim, I had the opportunity of seeing the baths through the courtesy of Dr. Hirsch Dr. Schott's assistant, who showed me over the grounds and described very fully the details of the treatment. It can best be described in Dr. Schott's own words: "The springs of Nauheim may be divided into two classes, those suitable for bathing and those suitable for drinking. Together with other ingredients the bath waters contain from two to three per cent. of sodium chloride, from two to three per 1,000 of calcium chloride, various salts of iron, above all, very large amounts of carbonic acid.

"Coming from the depths of the earth, they have a temperature of 82-95 F. Springing from a depth of 180 metres supercharged with carbonic acid gas by the pressure to which they are subjected, the waters gush far above the surface; for example, spring No. 12 rises to a height of 56 feet and falls again in white seething masses." This is a most striking condition; so richly charged with carbonic acid are these waters that the reservoir into which they fall has the appearance of a great mass of clouds. "Conveyed directly from the main by means of subterranean pipes, these waters charged with their natural gas are allowed to completely cover the body of the bather. Little bubbles of gas are seen to immediately cover the whole surface of the body; the waters of springs Nos. 7 and 12 escape from a pressure of from 1½ to 2½ atmospheres, and afford a surf bath which compares accurately with the strongest surf bath of sea water."

The first question which arose when this matter came to be scientifically investigated was, how do these baths and exercises act? That they were very efficacious in the relief of chronic cardiac disease had been demonstrated for some years back, but their action had never been investigated. There are several explanations given:

(1) That given by Dr. Schott in the following words: "Physiological research of recent years seems to show that the salts held in solution in water externally applied have no direct action on the system; the light and mobile molecules of the gas, on the other hand, pass rapidly through the skin to the corium with its rich supply of blood. We must look upon the salts held in solution as passing by imbibition through the uttermost layer of the epidermis, and so acting on the terminal nerves of the skin as to exert a reflex action on the internal organs. The warm baths act in their own peculiar manner on the organism as a whole; increased tissue change seems to be induced by an increase of the oxygen-absorbing power of the cells, and hence follows the sense of the need of rest and sleep as an immediate consequence of the bath, as well as influences speedily brought to bear on the nervous system as a whole. Excessive bathing induces an excitable state of the nervous system, sleeplessness, loss of appetite and consequent loss of strength. The principal changes which ensue in the system and in the function of the special organs are that the heart beats more slowly and strongly, the pulse becomes full and increases in force, and the blood pressure may rise to the extent of 20, 30 mm. of mercury; the breathing becomes regular and quiet, and the capacity of the lungs increased.

"While the patient is in the bath he becomes flushed and a feeling of comfort and warmth ensues which may even rise to one of an agreeable, intoxicating character. Almost invariably the excretion of urine is increased; exudates in the body cavities, especially from the peritoneum, pericardium and pleura, are absorbed. This latter action and that on the valves of the heart can only be explained on the theory of reflex action produced by influences acting upon the terminal nerves."

Another explanation is that given by Dr. Bezley Thorn, that there is a dilatation of the muscular arteries and afterwards those of the skin, and thus there is a relief of the heart from backward pressure.

In Lauder-Brunton's massage experiments he demonstrates that more blood flows through the massaged part and that blood pressure at first rises and then falls, and that on the conclusion of massage more blood collects in the massaged part. These experiments were confirmed by Dr. Oliver.* T. Grainger Stewart† concludes that the passive exercises (1) improve the circulation of lymph within the tissues, and (2) bring a larger volume of blood into the muscles. He quotes the conclusion of Ludwig to the effect that the capacity of muscles for blood is equal to the combined capacities of the internal organs and the skin. If, therefore, this be so and Dr. Lauder-Brunton's experiments be correct, the increased amount of blood in the muscles must indicate a relief of the congestion in the internal organs.

In Dr. Schott's explanation there are two actions:

(1) A cutaneous excitation induced by the mineral and gaseous constituents, and

(2) A more prolonged stimulation of the sensory nerves excited by imbibition into the superficial layer of the corium. The salt producing this excitation is the calcium chloride.

Whatever the explanation of their action may be, two points seem established:

(1) That the apex beat alters its position;

(2) The area of cardiac dullness is diminished. These two facts, especially the first one, were most strikingly obvious in our first cases, and both facts were most forcibly demonstrated to me in the cases which I saw abroad. One can scarcely credit the results published until he has seen for himself these marked changes.

The case reported to Dr. Bowles in the *Practitioner* for July, 1896, shows a change of 3 cm. in the apex beat before and after a bath of ten minutes' duration, and he says after his visit to Nauheim, which was made for the purpose of seeing for himself, "that which I thought impossible is shown to be quite possible." This case reported by Dr. Bowles was one of chronic myocarditis, moderate pleural effusion, general anasarca and general enlargement of the heart. The age of the patient was not given. I shall not at this time attempt to report cases, but merely mention this one of Bowles in order to confirm what has been our experience of the effect of the bath upon *the position of the apex beat*, and many other reports confirmatory of this remarkable change are to be found in the literature on this subject.

The diagrams of the cardiac outline made by Dr. Bowles are not quite accurate, but there can be little difference in opinion as to the position of the maximum cardiac impulse.

To quote Dr. Schott again: "The methods of administering the baths are of the greatest importance. It is advisable to begin with a 1 per cent. salt bath containing $\frac{1}{1000}$ of chloride of calcium, freed from gas and at temperatures varying from 92° to 95° F., the bath lasting from six to eight minutes. The course of treatment should be interrupted by frequent intervals of one day. The temperature of the bath should, if pos-

Brit Med. Jour., June 13, 1896.
†*Ibid*, September 19, 1896.

sible, be gradually lowered, while the proportion of solids in solution and the duration of the bath are gradually increased. At a later stage it is permissible to proceed to the baths containing carbonic acid. The temperature may then be rapidly lowered, especially if chloride of calcium be added in order to increase the mineral strength of the bath."

The course consists of six baths: the first and the second being simply with salts, calcium chloride and the sodium chloride: the third, fourth, fifth and sixth contain carbonic acid as well as these salts.

The preparation of the baths artificially was taken up especially by W. Bezley Thorn, in London, in 1895, since which time Ewart, Bowles and Broadbent have employed them in London, Moeller in Brussels, and Heinemann in New York. Following the analysis of the Nauheim waters made by the chemist Fresenius of Wiesbaden, the artificial baths may be readily prepared. We have now packages made up at our pharmacy each containing the proportion of salts for the different strengths of the baths, each package corresponding to 40 gallons of water, which is just about enough to entirely immerse the body. The baths of different strengths are given to appropriate cases.

I have not attempted in this note in any way to speak for or against the treatment nor to report cases. I have thought it best for the present simply to give an outline of the trip to Bad Nauheim, the purpose of which was to see the effects of the treatment and to learn something about it with the object of trying it in the hospital here. We have now five cases under treatment, and I trust by keeping careful records of the effects of these baths and exercises that we shall be able to pass judgment upon the weak points as well as the strong points of the method. Only by a careful trial can one place himself in a position either to recommend or to condemn the treatment. I take this opportunity of expressing my appreciation of the patience with which Dr. Schott heard and answered my many questions. I also wish to thank Dr. Heinemann for the instruction in the movements which he so carefully gave me.

In regard to the exercises, which are worthy of a lengthy description, something must be said. They consist of nineteen movements, each movement restrained by the very lightest resistance. This part of the treatment, under the supervision of a physician, is entrusted to the nurses, to whom we have given careful instructions as to the method of carrying it out.

The following are the instructions which we have laid down for the nurses in the administration of the bath, also the chart showing the observation which should be made.*

RULES FOR SCHOTT BATH.

(1) Always understand clearly from the doctor the following points: (1) Strength of the bath to be given: (2) temperature of the bath: (3) length of time patient is to remain in the bath. *Note.*—Give the bath in the morning unless otherwise ordered.

*These rules are made after perusal of the literature, also from instruction obtained from Dr. Schott personally.

(2) Observe carefully the chart and note the points therein called for. (1) Give bath on an empty stomach. (2) Note the time from the moment patient is immersed to that when he is taken out. (3) Allow the patient to make as little exertion as possible: assist him in every way. (4) A sheet may be drawn over the tub, but not around the patient. (5) Be sure the entire body is immersed. (6) Keep the finger on the pulse during the entire time the patient is in the bath.

Danger Signals.—Cyanosis (bluing of the face), dyspnœa (difficult breathing), apnœa (gasping), inappreciable pulse. On the appearance of any of these, take the patient out of the bath immediately, put him to bed and keep him as quiet as possible. Friction while in the bath is not necessary, but if the fingers and toes become bluish the extremities may be rubbed slightly towards the trunk. Friction should be cautiously employed: when the patient is out of the tub rub him to a glow; give him a glass of milk or cup of bouillon and allow him to rest for an hour.

Diet.—Small quantity q. 4 h. Meat—boiled chicken, mutton chops; eggs, two a day; oysters, raw or panned; vegetables—peas, beans, lettuce; liquids—beef tea, bouillon, cocoa, lemonade, milk. *Note.*—Never give more than 4 ounces of fluid at a time. Should be sipped Wine—port, Rhine, sherry, brandy, dram to half ounce.

Note.—Something light (cocoa and toast) should be taken one-half hour before the bath: something light and hot (bouillon, milk punch and toasted crackers) should be taken directly after the bath. If the heart's action is poor, sherry, brandy or port wine may be given after the bath. Last meal to be taken three hours before retiring.

Bath No. I.—Sodium chloride, 4 pounds; cal. chlor., 6 ozs.

Bath No. II.—Sodium chloride, 5 pounds; cal. chlor, 8 ozs.

Bath No. III.—Sodium chloride, 6 pounds; cal. chlor., 10 ounces; sodium bicarb., 6 ounces; HCl, 7 ounces.

Bath No. IV.—Sodium chloride, 7 pounds: cal. chlor., 10 ounces; sodium bicarb., 8 ounces; HCl, 12 ounces.

Bath No. V.—Sodium chloride, 9 pounds: cal. chlor., 11 ounces; sodium bicarb., 1 pound; HCl, 1 pound.

Bath No. VI.—Sodium chloride, 11 pounds; cal. chlor., 12 ounces; sodium bicarb., 1 pound: HCl, 2 pounds.

Each bath consists of 40 gallons of water.

Note.—By using a little more $HaHCO_3$ than is required to take up the HCl, the metal tubs may be employed without doing them any harm.

$$\underbrace{NaHCO_3}_{83.75} + \underbrace{HCl}_{36.37} = NaCl + H_2O + CO_2$$

THE EXERCISES.*

The exercises are called by Dr. Schott "Widerstandgymnastik," or resistance gymnastics, and consist in slow movements executed by the patient and resisted by the physician or operator. A short interval is

*The description of each movement is taken (with a few modifications) from "Chronic Disease of the Heart," by W. Bezley Thorn.

allowed after each movement, during which the patient sits down. The exertion employed must be very small, and should cause no increase in respiratory movements, flushing or pallor. The patient should be loosely and lightly clothed, and instructed to breathe quietly. The resistance made should be of such a kind that the patient may always feel himself easily the master. The operator must not grasp or in any way constrict the limb, but should oppose by the hand held flatly. The movements are nineteen in number:

Arm. (1) Arms extended in front of body on a level with shoulder, hands meeting: arms carried out until in line, and brought back to original position. (2) Arms hanging at sides, palms forwards: arms flexed at elbow until tips of fingers touch shoulder, back to original position: *one arm only moved at a time.* (3) Arms down, palms forward, arms carried outwards and upwards until thumbs meet over head: back to original position: one arm only moved at a time. *Not always advisable.* (4) Hands in front of abdomen, fingers flexed so that the second phalanges touch those of opposite hand: arms raised until hands rest on top of head: back to original position. (5) Arms down, palms against thighs, arms raised in parallel planes as high as possible: back to original position.

Trunk. (6) Trunk flexed on hips: return to original position. *Resist with both hands.* (7) Trunk rotated to left, to right: return to original position. *Resist with both hands.* (8) Trunk flexed laterally. *Resist with both hands.* (9) As No. 1, but fists clenched. *Resist with both hands.* (10) As No. 2, but fist clenched. *Resist with both hands.*

Large Arm Movements. (11) Arms down, palms against thighs, *each in turn* raised forwards and upwards until arm is alongside of ear, then turned outward, and arm descends backwards. Not always safe. (12) Arms down, palms to thighs, *both together* moved backwards in parallel planes as far as possible without bending the trunk forwards. Not always safe.

Legs. (13) Thighs in turn flexed on trunk, opposite hand resting on chair. (14) Lower extremities in turn extended fully, and bent on trunk forwards and backwards to extreme limits of movement, opposite hand resting on chair. (15) Legs in turn flexed on thigh, both hands on chair. (16) Feet together, lower extremities in turn abducted as far as possible and brought back to original position, opposite hand on chair.

Hands and Feet. (17) The arms, extended horizontally outwards, are rotated from the shoulder-joint to the extreme limits forwards and backwards. (18) The hands in turn are extended and flexed on the forearm to extreme limits, and brought back in line with arm. *Resist with both hands.* (19) The feet in turn are flexed and extended to extreme limits, and then brought back to their natural position. *Resist with both hands.*

We have arranged these in 5 groups, as in this way they may be more readily committed to memory.

RULES FOR OPERATORS.

1. Each movement to be performed slowly and evenly at an uniform rate.

2. No movement to be repeated twice in succession in the same limb or group of muscles.

3. Each single or combined movement to be followed by interval of rest. Count five.

4. Patient's breathing should not be accelerated.

I. *Avoid.*—1. Dilatation of the alæ nasi (dilating of nostrils).
2. Drawing of corners of mouth
3. Duskiness and pallor of cheeks and lips.
4. Yawning.
5. Sweating.
6. Palpitation.

If any of the above make a complete interval, or if excessive, stop the exercises for the day.

5. Direct patient to breathe regularly. If he holds his breath, make him count in a whisper.

6. Do not constrict the part which is being moved.—*Johns Hopkins Hospital Bulletin.*

INTESTINAL INDIGESTION.

The term digestion relates to the proteolytic and amylolytic action of the digestive ferments or enzymes in transforming the proteid and carbohydrate foodstuffs into soluble or diffusible products, changes rendering them capable of assimilation and utilization by the system.

A thorough knowledge of the complex processes of digestive proteolysis is of vital importance, because the proper understanding of the normal processes of the body aid us to better appreciate and more correctly interpret the abnormal or pathological processes to which the body is subject. The progress of physiological knowledge of the digestive processes has been materially aided in recent years by a more accurate technique in chemical methods. But even yet these processes are little understood, therefore you will pardon me for recalling to your minds some elementary facts of the digestive functions which in a sense are to day "twice-told tales." The exceeding prevalence of digestive disturbances has attracted my attention, especially in the last few years, and the more I investigate the more impressed I am of the importance and magnitude of this field for further investigation.

It is impossible to discuss intestinal indigestion apart from gastric indigestion. The former is a direct complement to the latter. Hence it will not be amiss to discuss the general nature of the digestive ferments or enzymes.

The origins of the several digestive ferments are from the cell protoplasm of the gland cells from which the respective secretions are derived. The peculiar action each performs in digestive proteolysis is due to the inherent character of the cell protoplasm from which each is derived.

Ptyalin of the saliva is the first enzyme which the food encounters in the alimentary canal. Ptyalin converts amyloids into maltose. The next step in digestion is made by the pepsin of the gastric juice, which ferment is rendered active by the contact agent, hydrochloric acid.

Pepsin transforms proteid foodstuffs through several processes, the final products being peptones. These peptones are not, as no doubt they are supposed by some, ready for direct absorption into the circulation. Peptones when injected directly into the blood-current behave as foreign bodies and produce a narcotic effect, not unlike that resulting from the injection of bacterial toxines. In fact, it is claimed by many good authorities that many of the chemical poisons produced by bacteria are proteose-like bodies, chemically similar to the proteoses or peptones of pepsin proteolysis. The peptones then resulting from pepsin proteolysis, since they act as toxines or foreign bodies when taken directly into the circulation, must therefore undergo some further transformation during the process of absorption by which their toxicity is destroyed and their nutritive elements rendered available for the needs of the body. In the discussion of pancreatic digestion this subject will be referred to again.

During gastric digestion, if hydrochloric acid is not present in sufficient quantity—free or combined—to insure the best function of pepsin proteolysis, the growth and development of pathological bacteria occur: acetic and lactic fermentation ensue, and these processes, often repeated and adequately prolonged, cause gastric congestion, inflammation, and indigestion. The way is now paved for disturbances of intestinal digestion, the immediate subject for our discussion.

Since the gastric peptones are not ready for direct absorption as such, gastric digestion is to be regarded rather as a preliminary step in proteolysis, preparatory to the more radical changes characteristic of pancreatic digestion, in which the important factor is the trypsin ferment. Aside from its functions as a reservoir for the food, and its preliminary work above described, indeed, the services of the stomach might in a greater or smaller degree be dispensed with. When the chyme or pepsin-peptones pass into the duodenum the reaction is acid, but by the time they reach the middle of the small intestines the reaction becomes alkaline, rendered so by the bile, the pancreatic juice, and the intestinal secretions. Trypsin, the active ferment of the pancreatic juice, unlike pepsin, does not require the presence of a contract agent, as hydrochloric acid, to insure its action. Chemical experiments with pancreatic extracts show that trypsin acts better in a neutral or alkaline medium. But the testimony afforded by some recent experiments with pure pancreatic juice, if we may rely on their accuracy, seems to bear evidence that the presence of a small per cent of hydrochloric acid not only does not retard but rather facilitates the action of trypsin, and the fact that the intestinal contents do not loose their acid reaction entirely until they reach the middle of the small intestines may be advanced as corroborative testimony. However, it is a well-demonstrated fact that the gastric digestion is essentially an acid digestion, and intestinal digestion an alkaline digestion. A word is in order here concerning the influence of bile on the proteolytic action of the pancreatic juice. Bile added to neutral or slightly acid proteids increases the action of trypsin. Further, the bile emulsifies fats, acts as an antiseptic, and stimulates peristaltic movement. It is strongly alkaline in reaction. The carbonate of sodium in the intestinal secretions completes the alkalinity of the intestinal contents, and this reaction obtains

until the large bowel is reached, when the reaction again becomes acid through the products of proteid decomposition.

The processes of digestion begun in the stomach then are carried forward by the pancreatic juice, which is the most powerful of the digestive secretions. By its ferment, trypsin, it converts albuminoids into peptones, but more quickly than pepsin does. Is diastaltic ferment acts more quickly and powerfully in converting amyloids into glucose than does ptyalin of the saliva. Its third ferment readily emulsifies fats.

The foodstuffs having been acted upon by the ferments of the several digestive juices, the proteids are reduced to peptones, and the corbohydrates to maltose. Absorption occurs principally in the small intestines. Now, since, as above stated, peptones and maltose can not be absorbed as such into the circulation without deleterious effects, the conclusion is inevitable that they must undergo some further transformation during the process of absorption which adapts them for the direct nutritional needs of the body. There are two theories as to the nature of this transformation. One is that the epithelial cells of the intestinal mucosa possess a ferment which is capable of further transforming peptones into simple products, as serum, albumin and globulin. And it is also claimed that these cells possess another ferment which further reduces maltose into glycogen, and that this characteristic may also be shared by the liver-cells. The second theory supposes that the leucocytes of the adenoid tissue surrounding the intestines have the functional activity of absorbing and transforming peptones into cell protoplasm, which thus gains entrance into the circulation through the mesenteric glands and thoracic duct.

Excessive ingestion of both proper and improper foods forms the chief cause of indigestion—primarily gastric, secondarily intestinal. Whenever the gastric and pancreatic juices fail to digest a part or all of the food ingested, that which escapes is attacked by bacteria and undergoes fermentative and putrefactive changes. The products of this bacterial action on the proteid substances which escape digestion are primarily indol, skatol, carbonic acid, etc., finally carbon dioxide, ammonia, nitrites, and sulphuretted hydrogen, all of which are abnormal products and by contact irritate the intestinal mucosa. Their partial absorption also gives rise primarily to a subjective train of symptoms usually designated by the term "biliousness," the vagueness of whose significance is a reproach to our intelligence. The contact and absorption of these products sufficiently prolonged produce more grave pathological conditions.

When carbohydrates escape digestion bacteria attacks these, and such abnormal products as alcohol, acetic acid, carbonic acid gas, etc., are formed, which added to the abnormal products formed by the action of bacteria on the undigested proteid substances, and enumerated above, cause sufficient irritation to the intestinal mucosa to keep it constantly oversupplied or gorged with blood, which eventually results in thickening of the intestinal mucosa, stasis of the lymphatics, paralysis of the villi, infiltration of the submucous connective tissue, and degeneration of the intestinal muscles. The nerves supplying the intestines become paretic, and peristaltic movement is inhibited. Constipation ensues, bacterial

toxines are produced and absorbed, poisoning all the tissues. Finally the inflammation extends to the large bowel, the colon becomes thickened, and peristaltic movement ceases at the cecal end. Its valves becomes relaxed and thickened, the valvular opening to the appendix becomes permanently relaxed, subjecting it to the constant danger of the entrance of foreign bodies, hence the frequency of appendicitis. At this stage of the disease diarrhœa alternates with constipation, tympanities is constantly present, and abnormal fermentation processes have full sway.

At this point let me sketch for you a clinical picture. We note that indigestion breeds bacterial fermentations, from which are evolved toxines whose primary effects, since they lie in contact and constantly bathe the intestinal walls, are the series of pathological conditions just above enumerated. We have also noted that absorption occurs principally in the small intestines, but the above said pathological changes in their walls pervert their selective power in choosing proper elements for absorption as well as impair their power in further transforming the peptones and maltose during the process of absorption, consequently these are absorbed as such along with the bacterial toxines which they resemble in physiological action. Through the vitiated blood-stream all the organs of the body are poorly nourished, and thereby rendered fit soils for the inroads of diseases. In my mind pulmonary consumption and Bright's disease are but the expressions of ill-nutrition. The nervous system probably is the greatest sufferer. The diversities of the nervous diseases labeled "neurasthenia" may all trace their origin to indigestion. Such marked pathological conditions as sclerosis of the brain and cord, ataxia, and tabes dorsalis may owe their origin to errors of digestion and consequent auto-infection. Indeed the clinical picture of intestinal indigestion, beginning with the beginning, when it expreses itself under the vague term "biliousness," and tracing it to the end, presents many complex features. So far-reaching are the evil effects of wrong digestion and malassimilation that in the outlines of this picture the image of "the thousand ills the flesh is heir to" may be traced, furnishing a spectre that makes the memories of the visions in Dante's Inferno come to us as pleasant dreams. Then, pity 'tis 'tis true that we most all "dig our graves with our teeth," and seldom is there a day but adds a nail to our coffin.

With this clinical picture of intestinal indigestion plainly before us the indications for treatment, or rather management, are obvious. The details of treatment would require a paper alone, and the scope of this paper will permit only a synopsis. The first thing indicated is to provide the proper quality of food, regulate the quantity, and in this respect every case is a law unto itself. If any constipation be present at this early stage, broken doses of calomel, ipecac, and soda are in order to arouse the secretion and to establish elimination. The next step is to correct any errors of gastric digestion. If there is a lack of hydrochloric acid, the same is indicated immediately before meals, and as much or more for its antiseptic effects than for its proteolytic action. If there is a condition of hyperacidity, carbonate of sodium should be administered two hours

after meals. If after having corrected the reactions of the chyme, preparatory to its further transformation by the intestinal juices, the digestive disturbances continue, the next step is not to commit the sin, which I consider the most common error in therapeutics to-day, of applying artificial digestants. Our object should be rather to tone and stimulate the digestive organs to the performance of their natural functions. Pepsines and their ilk should be thrown to the dogs. Theoretically, protonuclein to stimulate digestive leucocytosis is indicated, did we listen to the claim of its originators and vendors: practically, I prefer to supply the nuclein through beef, milk, and eggs.

A favorite prescription with me is one containing strychnia, hydrastis, ox-gall, gentian, ipecac and aloes. I use the nit. strych. It exercises a better effect over the secretions than does the sulph., and has the same toning power over muscular tissue. Hydrastic sulph. has a similar physiological action as the strych.: besides, it acts locally to heal the intestinal mucosa. Ox-gall is antiseptic and laxative, and being alkaline in reaction favors pancreatic proteolysis. Gentian acts better as a tonic, ipecac stimulates secretion, and aloes relieves the colon.

Aside from this, salol or thymol should be employed for their decided antiseptic effects when there is marked bacterial fermentation and infection in progress. Persistent tympanites is a reliable index to this condition. Daily salt sponges followed by general massage, together with an abundance of outdoor exercise, are very important adjuvants.

However, when intestinal indigestion has reached the second or third stage any treatment will fail that does not include lavage of the stomach and colon. Here truly cleanliness is next to godliness. It is imperative that both ends of the alimentary track be kept clean.—G. E. DAVIS, *Am. Practitioner and News.*

LUKE FILDES' PICTURE, "THE DOCTOR."

Mr. Henry Tait has promised Luke Fildes' picture, entitled "The Doctor," to the new Westminster Gallery, London, as soon as the building is finished. The picture will then be open to the world for inspection and discussion. Meanwhile all who have seen the etchings or lithographs of this painting will be interested in the following quotation from an article recently published by the editor of the *Art Journal:*

"After many studies, Mr. Fildes had the interior of a cottage erected inside his own studio. This was carefully planned and properly built, with rafters and walls and window, all as afterwards expressed in the finished picture. The composition has been recognized by the medical profession as a great and lasting compliment to the whole body. No more noble figure than the doctor could be imagined—the grave anxiety supported by calm assurance in his own knowledge and skill, not put forward in any self-sufficient way, but with dignity and patience, following out the course his experience tells him is correct: the implicit faith of the parents, who, although deeply moved, stand in the background, trusting their doctor even while their hearts fail. At the cottage win-

dow the dawn begins to steal in, and with it the parents again take hope into their hearts, the mother hiding her face to escape giving vent to her emotion, the father laying his hand on the shoulder of his wife in encouragement of the first glimmerings of the joy which is to follow."

It would be interesting to know from what source the striking portrait of the doctor himself was obtained.

In one Toronto surgery hangs a copy of this picture, with the following lines from Whittier written on a card beneath it:

"A face that a child would climb to kiss,
Strong and manly and brave and just,
That men may honor and women trust."

Hydrate of chloral, in five-grain doses, when given with one-eighth of a grain of morphine will often induce dreamless and natural sleep, a result which could not be accomplished by double the amount of either drug.—*Louisville Med. Monthly.*

The *British Medical Journal* is responsible for the following: A Chinese servant wished to intimate that the nurse reported that the baby had swallowed a cockroach, but was getting better, owing to a simple and almost inevitable natural process. The fact was stated thus: "Amah talkee that Sambo have chow-chow one piecie cockaloach. Just now he number one, he tummy have come topside."

Camphor as an Antigalactogogue.—Herrgott, *Br. Med. Jour.*, being dissatisfied with the effect produced by the usual antigalactogogoes, including antipyrine, has tried camphor, and finds that 9¼ grains a day, divided into three doses and given for three days, nearly always produces a remarkable diminution of the secretion. He has used it in thirty cases, having been first led to try it by the good results obtained by Kiener in animals, especially milch cows.

Counter-Irritation in the Treatment of Herpes.—Theodore Wilkins, *Med. Record*, states that he had good results from treating herpes by this method. In nearly all cases of herpes zoster a tender spot may be found higher up over the nerve trunk, and at this point the counter-irritant is applied in the form usually of flying blisters or turpentine. The pain is generally speedily relieved, and the eruption dries up much sooner than would be the case in the natural evolution of the lesions.—*University Med. Magazine.*

Advantages of Technical Languages.—The advantages accruing to the modern-trained nurse from a familiarity with technical terms are shown (*Boston Med. and Surg. Jour.*) by the recent remark of a nurse in attendance upon a man suffering from vesical retention. The patient had for some days been obliged to make several futile attempts in each case before accomplishing the function of micturition. Finally relief came, and the nurse saluted the doctor at his morning visit with the cheerful words: "He passed water to-day *by the first intention.*"

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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CLASSIFICATION OF ACUTE PERITONITIS.

BY N. SENN, M.D., CHICAGO.

Acute inflammation of the peritoneum is produced by so many different causes and assumes such varied clinical aspects that it is extremely difficult to formulate a satisfactory classification of the condition. A discussion of its etiology, differential diagnosis, prognosis, and treatment, except upon the basis of a clear and comprehensive classification, is fruitless and misleading, and usually results in the deduction of erroneous and often dangerous conclusions. The classification should include the anatomy, pathology, and etiology of the disease to be of value in rendering a correct diagnosis and a reliable prognosis, and to enable the physician and surgeon to advise and apply effective therapeutic measures.

1. ANATOMIC CLASSIFICATION.

An accurate anatomic diagnosis is necessary for the purpose of locating the inflammatory process correctly or to trace the connection between it and the organ primarily the seat of infection. During the beginning of the attack and in cases of localized peritonitis, the inflammation can usually be located without much difficulty, while the reverse is often the case after the disease has become diffuse. The inflammation may commence and spread from either surface of the serous membrane, visceral and parietal.

a. Ectoperitonitis.—An inflammation of the attached side of the peritoneum is called ectoperitonitis. As compared with inflammation of the serous surface, this inflammation of the subendothelial vascular connective tissue is characterized clinically and pathologically by intrinsic tendencies to limitation of the inflammatory process. In infected wounds of any part of the abdominal wall in which the peritoneum is exposed but not perforated, the primary ectoperitonitis is occasionally followed by the extension of the infection to the serous surface through the lymphatics, or by the direct extension of the infective process through the tissues until it reaches the endothelial lining. Peritonitis of a visceral origin is always preceded by ectoperitonitis, whether the infection reaches the peritoneal cavity through a perforation or by aggressive exten-

sion of the infection from a primary focus through the tissues until it reaches the free peritoneal surface.

b. Endoperitonitis.—What is usually spoken of and described as peritonitis is an inflammation of the serous surface of the peritoneum, which, anatomically speaking, is an endoperitonitis.

c. Parietal Peritonitis.—Inflammation of the serous lining of the peritoneal cavity is called parietal peritonitis. It may occur as a primary affection in penetrating wounds of the abdomen, but more frequently is met with as a secondary disease in consequence of the extension of an infection from one of the abdominal or pelvic viscera, or perforation into the peritoneal cavity of a visceral ulcer or a subserous or visceral abscess.

d. Visceral Peritonitis.—Inflammation of the peritoneal investment of any of the abdominal or pelvic organs is known as visceral peritonitis. The inflammatory process is seldom limited to a single organ, as during the course of the disease adjacent organs or the parietal peritoneum will surely become involved. In diffuse peritonitis the whole peritoneal sac and the serous covering of all the abdominal organs is affected. The nomenclature of visceral peritonitis is a lengthy one, as it includes all of the abdominal and pelvic organs from which, when the seat of a suppurative inflammation, may become the primary starting point of an attack of localized or diffuse peritonitis.

e. Pelvic Peritonitis.—Inflammation limited to the peritoneal lining of the pelvis and its contents is known clinically and anatomically as pelvic peritonitis. It is an affection almost entirely limited to the female sex, and in the majority of cases is caused by extension of gonorrheal infection from the Fallopian tubes, or a mild form of pyogenic infection from the uterus, its adnexa, or the connective tissue of the parametrium.

f. Diaphragmatic Peritonitis.—Inflammation of the under surface of the diaphragm is described as diaphragmatic peritonitis, and when it assumes a suppurative type and remains limited, leads to the formation of a subdiaphragmatic abscess. This acute localized form of peritonitis is usually secondary to suppurative affections of the liver and gall-bladder, and perforating ulcers of the stomach and duodenum.

2. ETIOLOGIC CLASSIFICATION.

The classification of peritonitis upon an etiologic basis is of the greatest importance and practical value. The nature of the exciting cause frequently determines the anatomic and pathologic varieties. It likewise has a strong bearing upon the prognosis, and often furnishes positive indications as to the methods of treatment which should be adopted. Peritonitis, like every other inflammatory affection, is always the result of infection with pathogenic microbes, usually of the pyogenic variety. The etiology must consider the different avenues through which the microbes find their way into the peritoneal cavity.

a. Traumatic Peritonitis.—Primary peritonitis has usually a traumatic origin; that is, the injury establishes a communication between the peritoneal cavity and the surface of the body or some of the hollow abdominal or pelvic organs, through which pyogenic bacteria enter in sufficient quantity and adequate virulence to cause an acute inflammation.

b. Idiopathic Peritonitis.—The occurrence of peritonitis without an antecedent injury or suppurative lesion is doubted by many. It is too early to deny *in toto* the existence of so-called idiopathic peritonitis, but future bacteriologic examinations of the inflammatory product will, no doubt, reveal a microbic cause in all such cases. As an isolated affection, peritonitis is found most frequently in females during or soon after menstruation. It is probable that the pyogenic bacteria multiply in the blood which accumulates in the uterus and reach the peritoneal cavity through the Fallopian tubes. It is said to have occurred in consequence of exposure to cold, and is then known as rheumatic peritonitis. Occasionally it has been observed as one of the remote manifestations of Bright's disease, pyemia, and the acute eruptive fevers.

c. Perforative Peritonitis.—Perforation of an ulcer of any part of the gastro-intestinal canal, or of an abscess of any of the abdominal or pelvic organs, or of the abdominal wall into the peritoneal cavity, is by far the most frequent cause of acute peritonitis. Two important and frequent causes are appendicitis and suppurative salpingitis.

d. Metastatic Peritonitis.—This form of peritonitis occurs, like other metastatic affections, in connection with suppurative or infectious processes not connected with the peritoneum. In very rare cases it develops in the course of many of the acute infectious diseases, as scarlatina, smallpox, erysipelas, rubeola, and even varicella. It also occurs frequently in the course of septicemia and pyemia.

e. Puerperal Peritonitis.—Peritonitis occurring in connection with septic diseases of the puerperal uterus has for a long time been known as puerperal peritonitis. The infection may extend from the edometrium through the Fallopian tubes, or it may follow the lymph channels or the thrombosed infected uterine veins. Infection through the lymphatics usually results in rapidly fatal diffuse septic peritonisis, while in thrombophlebitis there is a greater tendency to localization, unless the thrombi disintegrate and cause embolism and pyemia.

3. PATHOLOGIC CLASSIFICATION.

The pathologic conditions which characterize the different varieties of peritonitis necessarily must be considered in classifying this disease. The pathologic classification is based almost entirely upon the gross and microscopic appearances of the inflammatory exudation and transudation.

a. Diffuse Septic Peritonitis.—Every acute peritonitis is septic in so far that phlogistic substances reach the general circulation from the inflammatory lesion, and in that frequently the inflammation terminates in suppuration: but the term "septic peritonitis" should be limited to those cases of diffuse septic peritonitis in which, as a rule, death occurs in a few days, and before any gross pathologic conditions have had time to form. It is a disease that is almost uniformly fatal, with or without operative treatment, the patients dying from the effects of progressive sepsis. The claim of operators to have cured such cases by laparotomy must be accepted with a good deal of allowance. The microbes which produce this form of peritonitis are those which follow the lymph spaces and are rapidly diffused not only over the entire peritoneal surface, parietal and

visceral, but also through the subserous lymphatic channels. The disease is observed most frequently after perforation into the free peritoneal cavity of an abscess containing septic pus: rupture, or perforation of any of the abdominal or pelvic viscera coutaining septic material: gunshot or stab wounds of the abdomen, with visceral injury of the gastro-intestinal canal: and occasionally as the result of infection during a laparotomy. The gravest form of puerperal fever is a diffuse septic peritonitis. The subjects of this variety of peritonitis die so soon after the beginning of the disease that at the autopsy no gross tissue changes are discovered. Besides a slightly increased vascularity, nothing is found to indicate the existence of peritonitis. The septic material, formed in large quantities and of great virulence, is rapidly absorbed by the stomata of the under surface of the diaphragm discovered and described by Von Recklinghausen.

b. Suppurative Peritonitis.—Suppurative peritonitis, that is, an inflammation of the peritoneum which results in the formation of pus, is always more or less circumscribed. This form of peritonitis is the most frequent, and is generally associated with more or less fibrinoplastic exudation. The pus is either serous or seropurulent, or may reach the consistence of cream, when it usually is of a yellow color. The accumulation of pus may be so large that upon opening the abdominal cavity it may appear as though the entire peritoneal cavity and all the organs contained within are implicated, but a careful examination will almost always reveal the fact that a large part of the peritoneal cavity and many of the organs were shut out from the inflammatory process by plastic adhesions. Suppurative peritonitis must, therefore, be regarded from a practical standpoint as a circumscribed inflammation. The appearance and character of the pus are often greatly modified by the admixture of an extravasation accompanying the perforative lesion which produced the peritonitis. If the pus is thin (serous) we speak of *seropurulent peritonitis*. It is a serous peritonitis with the formation of pus in sufficient quantity to render the serum more or less turbid. This subvariety of suppurative peritonitis is without exception in combination with fibrinous exudations, which tend to limit the extension of the infective process. Sedimentation of the solid constituents takes place, so that the fluid contains more of the solid constituents in the most dependent portion of the affected district.

c Serous Peritonitis.—Independently of malignant and tubercular disease of the peritoneum, circumscribed hydrops of the peritoneal cavity is caused by every mild form of peritonitis, the pus microbes present not being sufficient in quantity to produce pus. Patients usually recover rapidly from this form of peritonitis. The slight alterations of the peritoneum produced by the inflammatory process do not interfere with the transudation of serum, and resorption is effected as soon as the inflammation subsides and the normal absorptive function of the peritoneum is restored. Serous peritonitis is usually more or less complicated by fibrinous peritonitis, as fragments of fibrin are often found suspended in the blood. The serum is generally somewhat turbid, not transparent, and grayish-yellow or reddish in color. As long as the fluid is limited in

quantity, it gravitates toward the most dependent parts of the abdominal cavity, in the small pelvis; when more copious it reaches the upper portions of the peritoneal cavity and first seeks the depression on each side of the spinal column.

d. Fibrinoplastic Peritonitis.—The inflammation results in a plastic exudation with little or no effusion. The character of the exudate depends on the intensity and quality of the bacterial cause. The exudation is often so copious that it has been mistaken for malignant disease. The symptoms are marked cachexia, ascites, uncontrollable diarrhœa, and apparent tumor deep in the abdomen. The exudation, in the course of time, contracts, and results in strong bands of adhesion which frequently flex and distort the organs to which they are attached, which has given rise to another term—*peritonitis deformans.*

4. BACTERIOLOGIC CLASSIFICATION.

As the essential cause of peritonitis is always the presence and action of pathogenic microbes and their toxins upon the peritoneum, and as the character of the inflammatory process is largely influenced by the kind of microbes which produced the infection, a bacteriologic classification is of the greatest scientific and practical importance. All pus microbes present in sufficient quantity and virulence in the peritoneal cavity can produce peritonitis.

a. Streptococcus Infection.—The streptococcus pyogenes is the microbe which is most frequently found in the tissues in cases of septic peritonitis. The infection spreads so rapidly over the peritoneal surface and through the subserous lymphatics that death, as a rule, occurs from septic intoxication before a sufficient length of time has elapsed for any gross pathologic lesions to form. Absence of fibrinous exudate and effusion are the most striking negative findings at operations and necropsies. Streptococcus infection is the immediate cause of the most fatal form of puerperal peritonitis. After the peritoneum has once been infected, rapid diffusion takes place, and finally the diaphragm and pleuræ are implicated in the same process, and the patient dies from the effects of progressive sepsis.

b. Staphylococcus Infection.—In peritonitis caused by staphylococcus infection the intrinsic tendency to localization of the disease is more marked; the inflammation results more often in circumscribed suppuration and limitation of the infective process by copious fibrinoplastic exudations. As a rule, the inflammation terminates in the formation of thick, cream-colored pus. Different forms of staphylococci are often seen in the same inflammatory product.

c. Pneumococcus Infection.—It is now well known that pneumonia is produced by different microbes, but the diplococcus is found in about eighty per cent. of all cases. It is this microbe which occasionally is found as the bacteriologic cause of acute suppurative peritonitis. Weichselbaum has found the diplococcus of pneumonia unaccompanied by any other micro-organism in three cases of peritonitis. In one case the peritonitis and acute pneumonia occurred simultaneously: in the other, double pleuritis followed the peritonitis, but in the last case the peritonitis was undoubtedly primary, and in the absence of any other microbes in the

inflammatory product must have been caused solely by the diplococcus of pneumonia.

d. Bacillus Coli Commune Infection.—The bacillus coli commune, a microbe that constantly infests the intestinal canal, is in a fair percentage of cases the bacteriologic cause of acute peritonitis. This microbe possesses pyogenic properties, and in intestinal paresis and perforations escapes into the peritoneal cavity, and usually produces a pathologically mixed form of peritonitis—that is, suppurative and fibrinoplastic peritonitis.

e. Gonococcus Infection.—In the peritoneal cavity the gonococcus produces a plastic peritonitis, and sometimes localized suppuration. Salpingoperitonitis and the more diffuse pelvic peritonitis is most frequently caused by gonococcus infection.

f. Tubercular Infection.—The rapid diffusion of the tubercle bacillus in the peritoneal cavity, either through the circulation or by rupture of a tubercular abscess into the peritoneal cavity, or by extension from a tubercular salpingitis, occasionally gives rise to a form of acute peritonitis characterized as such in a modified way by the clinical manifestations which accompany it. According to the intensity of the infection, or the degree of susceptibility of the patient to the action of the tubercle bacillus, the disease assumes one of the following pathologic forms: (1) Tubercular ascites. (2) Fibrinoplastic peritonitis. (3) Adhesive peritonitis. Suppuration takes place only when the tubercular product becomes the seat of a secondary mixed infection with pus microbes.

5. CLINICAL CLASSIFICATION.

A diagnosis for the careful physician and conscientious surgeon must include the location, extent, causation, and pathology of the disease. From the information obtained from the classification already made must be obtained the material upon which to base a clinical classification. Such a classification should serve as a guide in differentiating between the cases which demand surgical intervention and the cases which can be trusted to medical treatment.

a. Ectoperitonitis.—Abscess formation in the subperitoneal connective tissue, as seen most frequently in the pelvis in women, in the cavity of Retzius in men, and in the retroperitoneal space in both sexes, is always attended by inflammation of the under surface of the peritoneum. Such abscesses should be recognized and accurately located sufficiently early to prevent serious complications by an extraperitoneal incision and drainage; or, if the abscess is of a tubercular nature, by tapping, evacuation, and iodoformization.

b. Diffuse Septic Peritonitis.—This form of peritonitis is characterized clinically by the gravity of the general symptoms from the very incipiency of the disease; pathologically, by the rapid diffusion of the infection over the entire serious surfaces, visceral and parietal; and, bacteriologically, by the presence in most of the cases of the streptococcus pyogenes in the inflamed tissues. Staphylococci, pneumococci and the colon bacillus may also be the cause of rapidly spreading diffuse peritonitis. This form of peritonitis usually follows penetrating wounds of the abdom-

inal cavity, complicated by visceral injuries of the gastro-intestinal canal, contusion or laceration of any of the abdominal or pelvic organs, rupture of an abscess or ulcer into the free peritoneal cavity, or the extension of a septic lymphangitis from any of the abdominal or pelvic organs to the peritoneum. Strict aseptic precautions have succeeded in greatly reducing, but not entirely eliminating, the danger from this source in all operations requiring opening of the free peritoneal cavity. In genuine cases of diffuse septic peritonitis surgical intervention is usually powerless in preventing speedy death from toxemia.

c. Perforative Peritonitis.—Perforative peritonitis is manifested by the sudden onset of the disease, by diffuse pain and tenderness, rigid abdominal walls, fever, and vomiting, and by the impossibility by inspection, palpation, or auscultation to ascertain intestinal peristalsis, the latter being almost positive proof of the presence of gas in the free peritoneal cavity. According to the author's observations, meteorismus peritonei in perforative peritonitis caused by affections of the appendix is rare, while he has seldom found it absent in perforations of any other portion of the gastro-intestinal canal. According to the number and virulence of the microbes which find their way into the peritoneal cavity with the extravasation, the resulting peritonitis is either diffuse or more or less circumscribed. The colon bacillus is invariably present in the inflammatory product; but, in addition, streptococci, staphylococci, putrefactive bacilli, the typhoid bacillus, or bacillus of tuberculosis, according to the nature of the primary affection, may also be found.

Perforative peritonitis must be regarded and treated as a strictly surgical disease. The primary lesion must be exposed and treated as soon as a diagnosis can be made, and the necessary measures applied to limit the extension of the infection and to prevent death from toxemia.

d. Circumscribed Peritonitis.—The symptoms appear suddenly, *i. e.*, are preceded by those incident to the primary disease. The severity of the pain and the extent of the muscular rigidity and tenderness will correspond with the extent of the disease. The intensity of the general symptoms are determined more by the nature and virulence of the microbic cause than by the size of the peritoneal surface involved. The inflammatory focus may be limited to a very small space, or it may involve the greater portion of the peritoneal cavity and organs which it contains. Circumscribed suppurative peritonitis is usually the result of infection with staphylococci, bacillus coli commune, and pneumococci. In fibrinoplastic peritonitis surgical interference becomes necessary only when intestinal obstruction is caused by the adhesions. In circumscribed suppurative peritonitis the pus should be evacuated as soon as the disease is recognized, and, if possible, by an extraperitoneal route.—*N. Y. Medical News.*

A physician was recently in attendance upon a distinguished cleric and scholar. Amongst other things the patient was advised to take an enema (with a long *e*). "But, doctor," said the cleric, whose classical ear had been offended, "what about the quantity—the *quantity*, you know?" "Oh! the quantity," said the surgeon; "well, about two pints or so."

NERVOUS DISEASES AND TELECRO-THERAPEUTICS.

IN CHARGE OF
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A CASE OF AMNESIA.

BY EDWIN R BISHOP, M.D., SHEPPARD ASYLUM, BALTIMORE, MD.

On September 26th of 1896 a man came to Sheppard Asylum and asked to be admitted. He gave the following history: On August 28th last he found himself walking on the road; he saw a city some distance away and walked into it: feeling hungry, and passing a restaurant, he went in, ordered some food, ate, and paid for it. He did not recognize his surroundings, so he paced up and down a street until accosted by a policeman, and was surprised that he could tell nothing about himself, not even his name. He was taken to the police-station, and from there to the Maryland University Hospital, where, upon examination it was discovered that up to the moment that he found himself wandering on the road in the suburbs of the city his mind was a complete blank. There was nothing on his person except a few cents and a railroad time-table, and nothing whatever to identify him. He was given the name of John Smith by the hospital people and remained there four weeks. While there he met several locomotive engineers, who found he knew the parts and management of a locomotive, and from that inferred he must have been a railroad man. He was discharged from the hospital, but being unable to find work he applied to the police, who sent him to the Sheppard Asylum.

When admitted into Sheppard he had the appearance of a mechanic, about thirty years of age, was neatly dressed, well-formed physically, and free from any of the stigmata of degeneration. His accent was northern, he seemed fairly intelligent, talked well, and wrote a good hand. When questioned about locomotives or machinery he answered correctly, and had a vague idea of some simple historical facts, saying, in reply to a question, that George Washington discovered America in 1492, and was the first President, but his own life was still a closed book. The University Hospital authorities corroborated his history while there, except that during the latter part of his stay he had been delirious for three days.

About a week after admission he voluntarily wrote the names of several Western cities, saying he thought they were the names of places. One of them was Sheridan, Wyo., and when the names of several Sheridan people were mentioned he remembered them, and also voluntarily mentioned the names of several others.

Upon inquiry it was found that the patient had a wife in Washington, D.C., who gave the following facts: The patient has a good family his-

tory, and up to last November had always been well and strong, though dissipated at times. He was a locomotive engineer, and early in November, 1895, he fell from his engine, striking on his head, and was carried home unconscious, and for three weeks complained of severe pains in cerebral vertex and lumbar spine. Following this he seemed to be more dissipated and unreliable. In January, 1896, he went to Sheridan, Wyo., where his drinking bouts soon began and were often repeated. I am informed by his attending physician in Sheridan that these attacks would begin with severe pains in vertex and lumbar spine, and were always accompanied by maniacal symptoms and marked loss of memory of events immediately prior to the attack. Toward the latter part of April he was maniacal for two weeks, and was sent to a hospital in Galesburg, Ill., where he spent two or three weeks, of which I have not been able to procure the particulars. During June, July, and up to the middle of August, he led a precarious existence in Chicago, getting drunk at times, and spent two weeks in a hospital, after terrorizing the people at his boarding-house by crawling about the floor and uttering peculiar sounds. From the middle to the 28th of August, the day he found himself walking on the road near Baltimore, nothing is known of him, but it is supposed he attempted to follow his wife to Washington, and was overtaken by one of his drinking attacks, accompanied by the amnesia in which he was found.

I regret that I cannot follow the subsequent history of the case, who, being disowned by his wife, was discharged from the asylum on the 24th day of October, and on the 6th of December I received a message from Parkersburg, W. Va., that he was arrested in an insane condition, but my inquiries regarding his symptoms have not been answered.

The amnesia of this case results from two casual factors: one, the frequent recurring attacks of drunkenness, influenced undoubtedly by the cerebral concussion due to falling from the locomotive last November. The destructive effects of alcohol upon the memory are evident in every dissipated man, from the dipsomaniac who is unable to recall many of the important events of his debauch, to the chronic inebriate whose memory steadily degenerates along with his other mental and moral faculties. Such cases are mentioned in all works on mental medicine. Bevan Lewis classifies an amnesic form of chronic alcoholism. Of it he says, "The most notable feature characterizing this class is the peculiar failure of memory: an instantaneous forgetfulness of events which have only just occurred. Every degree is found, from slight retentiveness up to a complete and almost immediate abolition of the latest impression."

We can only conjecture how far the patient's state was influenced by the cerebral concussion. He was reputed to have been a healthy, industrious workman, though given to drinking at times, before the accident: but soon after, his drinking attacks became frequent, each attack accompanied by maniacal symptoms, severe pains in the cerebral vertex and lumbar spine, and loss of memory of events immediately previous to the attack. These mental symptoms, together with the attack of delirium reported to have occurred during his last week in the University Hospital, and after three weeks abstinence from liquor, point to a probable organic brain lesion, though when he came under our observation he

had no symptoms referable to brain injury, no disorders of sensation or motion, no eye or speech symptoms, reflexes normal, and no local signs of traumatism. This lack of permanent mental and physical symptoms does not preclude a cerebral lesion. Erichsen says of the after effects of cerebral concussion, "recovery may be complete, but a permanently irritable state of the brain may be left: the patient, though capable of the ordinary duties of life, becoming readily excited by slight excesses in diet or the use of stimulants or by mental emotion, though not of an inordinate intensity." Lasègue gives the name "cérébraux" to patients in this condition, and aptly describes them, "when the health cerebral condition has been disturbed, be it only for one moment, by an injury, by a lesion of the brain, or by malformation of the skull, cure often means only suppression of the symptoms. The patient, supposed to have recovered, has acquired only a morbid diathesis which governs the rest of his life. He becomes subject to mental or physical disorders, which repeat themselves most commonly under the form of incomplete and irregular crises, and break the solidity of pathological laws, and which we have to study as a special kind of cerebral affection."

We have, then, a man whose cerebral substance has been so affected by concussion due to a fall on his head from a height of about six feet, that marked mental changes soon appear. He becomes nom die in habits, has frequent attacks of intemperance, each attack being accompanied by localized pains, maniacal outbursts, and defects of memory that are characteristic of the amnesia of concussion, in that they are retroactive, extending to events prior to the onset of the attack, and finally an attack of almost complete amnesia, lasting, we know, for eight weeks, and probably for a very much longer time. If he could have been kept quietly in a hospital and away from the exciting influences of a free life very much of his former history would probably have been restored to him, as indicated by the faint glimmers he had before he left us. The case, I take it, is one of suspended function, a state of inhibition, and could he have remained under treatment long enough, his normal function would probably have rehabilitated itself.

It is interesting to observe the extent of this man's amnesia. It bears out the law of reversion or regression so well elaborated by Ribot in his "Diseases of Memory." He enunciates six general conclusions, which in part are, "In cases of general dissolution of memory, loss of recollection follows an invariable path; recent events, ideas in general, feelings, and acts. In each of these classes the distinctive process is identical It is a regression from the new to the old, from the complex to the simple, from the voluntary to the automatic, from the least organized to the best organized. Recollections return in an inverse order to that in which they disappear." This man retained most of his automatic, well-organized memories, but most of his more purely intellectual memories were in a state of inhibition. His recollection of machinery is due to the persistency which memories of motor acts endure, due, as Ribot says, to the "necessity for a great number of cells and nerve filaments, for the conservation and reproduction of a movement, however simple, implies an equally great possibility of permanence and revivication," and speaking

of the type of amnesia in our case he says, "neither habits nor aptitude for mechanical work, such as that for sewing, embroidery, nor the faculty of reading or writing a native or foreign language is in the least affected. It is hard to understand why this man should have retained any recollection of George Washington and none of his own name, for surely the latter memory was better organized than the former. It is one of those unusual exceptions that are said to prove every rule.

THE VALUE OF A KNOWLEDGE OF NEUROLOGY

The Boston *Medical and Surgical Journal* contains an editorial on the above subject which is pat and so in accord with neurological and clinical observation, that we take pleasure in presenting it entire with our unqualified endorsement:

The majority of medical students seem to regard the subject of neurology as something metaphysical and mysterious, a field apart from that of the rest of the science of medicine, and one which is only cultivated by persons of a peculiar squint-brain mould who devote themselves to it more to beguile the tedium of an elegant leisure than with any serious idea of benefiting humanity. They scoff, moreover, at the limited scope of its therapeuties, and attempt to stifle its *raison d'etre* with the sneering remark that "all you can do is to give iodide—and a bad prognosis;" and they even go so far as to glory in their profound ignorance of nervous disease, and studiously avoid the clinics.

It should be impressed upon such men that in so thinking and doing they are thereby throwing away the most splendid opportunity which is offered to them throughout their whole medical course, of training the two faculties most essential to the successful physician—the faculties of observation and of logical induction.

The trouble with most students who are placed before a clinical case is that, in getting at historical data, they fail to eliminate the irrelevant, and mass the essential; and, secondly, that they are too prone to jump at conclusions concerning a single organ without giving due consideration to the organism as a whole.

To eradicate such defects falls peculiarly within the power of the neurological instructor: for the very nature of nervous cases, with their unlimited multiplicity of symptoms, is such as to educate his perceptive and reasoning faculties to the highest degree, and thus enable him to impart a clearer insight into the working of the human machine, energized and regulated as it is by the great cerebro-spinal apparatus, than is possible to the worker in any other field of the science.

His distinctly neurological habit of careful and exhaustive examination, with its attendant systematic array of findings and logical inferences therefrom, cannot but have a profound influence in shaping the course of the future physician's work in a way which will at once distinguish it from the ordinary and sloven.

Moreover, it cannot be argued that such a training will make a man see everything from a neurological point of view: it is too broad and thorough. On the contrary, it will enable the future surgeon to be

something more than a mere mechanical factor in operative cerebro-spinal diseases, a position which certain surgeons most conspicuously occupy at present. It will impart to the man of gynecological proclivities a more just appreciation of nervous phenomena which are only too frequently incorrectly attributed to uterine diseases, and enlarge his field of vision beyond a single organ and its adnexa; and, finally, it will rid the man who is to follow the path of general practice of that most senseless notion that the nervous system is a thing apart, and teach him to note the marks of its influence either as a valuable ally or as a treacherous antagonist in every case he meets.

One of the most important reasons for the narrow scope of nervous therapy as regards organic diseases is that many such cases are, when in their curable stages, in the hands of a family physician, and the vague but unequivocal signs which they give are, through his indifference—or ignorance—overlooked. This is especially true of that large class of nervous diseases which is the result of the virus of syphilis.

As regards the cases which are really chronic from the start, a practical knowledge of neurology will enable the physician to alleviate suffering even if he cannot cure, and, what is of chiefest importance, prevent him from exaggerating the disease by indulging in a wholesale and irrational exhibition of strychnia, bromides and iodides.

There is absolutely no reason why the sufferer from incurable nervous disease should not obtain at the hands of his medical attendant the same solicitude and studied attention to the alleviation of symptoms as does the victim of chronic heart, lung or kidney trouble, but that he generally fails to get either is a fact which obtains and will continue to do so until a broader and more rational knowledge of neurology is, by compulsion, if necessary, incorporated into the general mass of medical information which is required of the men who leave our medical schools.

Bed Treatment.—Dr. A. Bernstein (of Moscow) *Annales Medico-Psychologues*, IV. No. 1, January, 1897, reports on the results of this method for the acutely insane as shown in a year's experience in the psychiatrical clinic at Moscow. He finds it practicable beyond expectation, and that under this method of treatment the manifestations of the mental disorder become less intense, the motor excitement is reduced to a minimum, the intellectual excitations diminished, the delirium is milder and monotonous. He deduces from this no general conclusions and leaves the future to decide whether the contraction, so to speak, of the intellectual horizon tends to repose of the brain or to a durable mental decadence. The experience of the Moscow clinic proves only one thing, viz., the negative finding that recovery is not more prompt and frequent than under the former methods with all their disadvantages. In this he admits that he is in disagreement with some others who have reported on the results of this treatment elsewhere, but he appeals, apparently with reason, to their own statistics in support of his opinion.

He deprecates the zeal for this new method which would make it a routine treatment, disregarding the individual needs of every patient, but believes it an advance as aiding to do away with seclusion, untidiness, and destructiveness, and the costly and objectionable appliances hitherto employed to meet these requirements.

PAHOTLOGY AND BACTERIOLOGY.

IN CHARGE OF

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VACCINATION AGAINST TYPHOID FEVER.

In the *Deutsche Medicinische Wochenschrift* for November 12th, 1896, Pfeiffer and Kolle, of the Berlin Institut für Infectionskrankheiten, announce the results of certain experiments undertaken to determine the possibility of protecting healthy subjects from typhoid fever by inoculating them with dead cultures of typhoid bacilli. These researches were inspired by the achievements of Haffkine in protective inoculation against cholera. In India, last year, over 100,000 people were inoculated with cultures of cholera bacilli, and the immunity which was secured by this treatment is sufficient to justify the belief that a valuable means of arresting the spread of cholera epidemics has been discovered.

Pfeiffer and Kolle, in their experiments, used a virulent culture of typhoid bacilli obtained from the spleen. A cubic centimetre of a bouillon preparation of this culture, rendered absolutely sterile by heat, was injected under the skin of individuals who were known not to have had typhoid fever. The inoculations were followed in a few hours by shivering, malaise, vertigo, and fever, the symptoms persisting for twenty-four hours. The blood-serum of these subjects, drawn six and eleven days after the inoculations, was found to have a distinct immunizing power when injected into lower animals. Serum obtained six days after the operation had the power of saving a guinea-pig into the abdomen of which an otherwise fatal dose of a typhoid culture had been injected. Serum drawn at the eleventh day had even a greater protective influence. The authors conclude that it is more than probable that the appearance of specific bactericidal substances in the blood of individuals who have had typhoid fever represents the chief cause of the immunity possessed by them. If this is correct, then it is to be expected that these prophylactic inoculations with killed typhoid cultures can produce an immunity of equal intensity and duration as that found after an attack of typhoid fever.

From a paper recently published by Wright and Semple (*British Medical Journal*, January 30th, 1897,) it appears that Pfeiffer and Kolle were not the first to employ antityphoid vaccination. The former experimenters, acting on a suggestion made by Haffkine, made a number of inoculations in the summer of 1895, which were subsequently recorded in the *Lancet* for September 19th, 1896. Wright and Semple employ

a vaccine made from agar cultures of typhoid bacilli which have been grown for twenty-four hours at blood-heat, and which are then emulsified by the addition of a measured quantity of sterile broth. The emulsion thus obtained is drawn into a series of glass tubes, which are finally sealed and subjected to a temperature of 60° C. for five minutes, in order to render their contents completely sterile. Generally the typhoid culture employed was of such a strength that one-fourth of a tube constituted a lethal dose for a guinea-pig of 350 to 400 grammes when hypodermically injected. From one-twentieth to one-fourth of a tube was employed for the antityphoid vaccinations, the fluid being injected into the flank.

The researches of Pfeiffer, Gruber, Durham, and Widal have furnished an excellent method of determining the effect of these protective inoculations. To quote from the paper of Wright and Semple referred to, Pfeiffer and his followers have demonstrated that whenever the microorganisms which are casually associated with a specific fever are brought in contact with the serum or plasma of an animal or a patient who is undergoing or has undergone an attack of the specific fever in question, the following succession of phenomena manifests itself: (*a*) The bacteria become agglutinated together; (*b*) the bacteria lose their motility; (*c*) the clumps of agglutinated bacteria sink to the bottom, and the culture fluid, which was previously evenly turbid, becomes clarified; (*d*) the bacteria shrink up into the form of minute spherules; (*e*) lastly, the bacteria are definitely devitalized. Of these phenomena the sedimentation of the bacteria serves best as a criterion of the specific power of the serum, and the extent to which the serum possessing this specific power may be measured by determining how far the blood may be diluted before it forfeits its sedimenting property.

The subjects vaccinated by Wright and Semple were eighteen medical officers of the army, and in every instance was the sedimenting power of the blood developed within from one to four days. In the majority of cases the power was not lost after fifty or even one hundred-fold dilution. If vaccination invariably produces the specific changes in the blood which have been described, the belief is not unwarranted that the vaccinated blood will exert such a deleterious influence on the bacilli of typhoid fever as will result in the effectual protection of the patient against that disease.

At present it is impossible to state the duration of the immunity thus artificially acquired, but, judging from the extremely slow disappearance of the perfectly comparable sedimentation power which is acquired by undergoing an attack of typhoid fever, there is every reason to hope that the immunity which is conferred by these vaccinations may persist for a considerable number of years, and suffice to carry the young adult over the period of his extreme susceptibility.—*Univ. Med. Mag., Mar. 1897.*

THE CAUSE OF DEATH FOLLOWING BURNS.

Ajello and Parascandolo conducted numerous investigations concerning the cause of death after burns, and conclude that the deaths are

caused by toxic ptomaines. Death is not due to the toxin of the bacterium proteus, nor to any anatomical changes which the blood or burnt parts may suffer. The ptomaines of burnt organs are the same when the organ is first removed from the body and then burnt. Healthy animals inoculated with this die with the same symptoms as burnt animals. Death after burning is, therefore, due to the absorption of ptomaines produced by chemical changes in the tissues due to burns. The immediate removal of the burnt part prevents this absorption, and consequently all specific symptoms of the burn and death. The same objects may be attained by venesection and the immediate transfusion of healthy blood or artificial serum.—*Gazz. degli Ospedali e delle Clin.; Centralblatt für innere Medicin.*

NEURASTHENIA.—An excellent nerve tonic and sedative is:

Quinine valerianate	40 grains
Iron subcarbonate	80 grains
Arsenous acid	1 grain
Strychnine sulphate	1 grain
Asafœtida	120 grains
Extract sumbul	60 grains

Make forty-eight capsules. Take one after each meal.

SERUM DIAGNOSIS OF TYPHOID FEVER.—Widal and Sicard (*Sem. Méd.*, February 24th, 1897) have tested the agglutinative action of serum taken during the fever, during a relapse, or during convalescence in 21 cases of enteric. They find that (1) if different proportions of the serum are added to broth cultures of the bacilli incubated for one or two days, successive microscopical examinations show that the limit of the agglutinative power is reached after one or two hours: (2) microscopically the clearing of the broth culture mixed with the serum is perceived only after several hours in the incubator: (3) the serum keeps its power for several days—an important point as regards sending specimens of blood for examination: (4) while in mild cases the agglutinative power may be slight, yet the extent of the reaction is no index of the severity of the case: (5) the curve of the reaction traced through the whole course of the illness is a variable one: it is sometimes slightly marked at first, and increases progressively, or it may remain the same all through; as a rule it diminishes more or less rapidly during convalescence, or even during defervescence, sometimes with remarkable rapidity, but exceptionally it lasts for months or years: (6) it is, therefore, essentially a reaction of the infective period, and cannot be, as is often supposed, a reaction of immunity. Agglutination caused by the serum of artificially-immunized animals was first described by Charrin and Roger, and is quite distinct. The authors, in fact, introduced serum diagnosis after discovering this distinction.—*Brit. Med. Journal.*

NOSE AND THROAT.

IN CHARGE OF

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THE TREATMENT OF WOUNDS OF THE AIR PASSAGES.

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This subject does not appear to have received quite so much attention as it merits, and hence, having had opportunities of observing an unusually large number of cases, I venture to record my results, together with a brief account of certain improved details of treatment. Until a few years ago almost all authorities discountenanced the use of sutures in wounds opening the air passage. The risks to the patient were thereby greatly increased, and death often occurred from septic broncho-pneumonia or other inflammatory complication; at the best convalescence was tardy, and permanent aërial fistula or stenosis of the larynx or trachea frequently resulted. In 1892, however, Henry Morris[1] recorded a number of cases in which he had applied sutures with success, and Pollard[2] advocated the same treatment; but although other surgeons have from time to time reported isolated successful cases, it would appear that a large number of these wounds are still treated by the older method of non-suture.

During the two years whilst I was resident surgical officer at the Manchester Royal Infirmary 35 patients suffering from suicidal wounds of the throat were admitted to that institution. In 10 of their number the air passages were injured, and in 25 the wound was comparatively superficial.

From an analysis of the cases it would appear that the position of the wound was as follows:

Above hyoid bone	1
Thyro-hyoid membrane	3
Crico-thyroid membrane	3
Through trachea	1
Through thyroid cartilage and crico-thyroid membrane (2 wounds)	1
Through trachea and crico-thyroid membrane (2 wounds)	1

In both cases where the trachea was injured, this tube was completely divided, the muscular fibres of the œsophagus being exposed.

Of the 10 cases, 2 died, 7 recovered, and 1 made an incomplete recovery. The first fatal case (Case i.) was a man who had an extensive wound situated above the hyoid bone, and opening the pharynx. No sutures were applied: the patient sank gradually, and died from heart failure eight days after admission. With this exception all the wounds were sutured shortly after the accident. The other fatal case (Case viii.) was a very feeble man with a wound of the crico-thyroid membrane, who died on the eighth day from acute croupous pneumonia. The pneumonia was probably set up by the entrance of cold air into the lungs through the wound at the time of the accident, and was aggravated by the generally diseased condition of his organs. There was no sign of septic pneumonia, and hence the *post-mortem* appearances of this case rather justify than condemn the local treatment which was adopted. The case of incomplete recovery (Case v.) was one in which the sutures holding together the ends of a divided trachea gave way, and thus permitted cicatrical contraction and subsequent stenosis. The remaining 7 cases made complete, and in most instances uninterrupted, recoveries: their average stay in hospital was eighteen days, and four of the number healed without the occurrence of suppuration.

The treatment adopted was not the same in all cases. Many improved operative details suggested themselves from time, and I therefore propose to give a short account of what I consider the best method of dealing with these wounds.

Whenever the condition of the patient permits he should be placed under the influence of an anæsthetic, the wound carefully cleaned, and the opening in the air passage closed by sutures. Not infrequently the patient is suffering greatly from shock when first seen, but if the primary hæmorrhage be arrested, he will usually rally sufficiently in the course of a few hours to bear the administration of an anæsthetic. If he have lost much blood, it may be advantageous to transfuse one or two pints of saline fluid into the veins.[3]

The best anæsthetic in these cases is undoubtedly chloroform. During the earlier stages of the operation its administration is often difficult, owing to the patient drawing in more or less air through the wound, but during the later stages, when the air passage has been closed, it can be given with much greater facility.

Having cleaned the wound with antiseptic lotion, and arrested all hæmorrhage, the surgeon must decide whether he will completely close the air passage or will put in a tracheotomy tube. On this point it is impossible to lay down a definite rule; in many instances it is undoubtedly quite safe to close the wound in the air passage, and I adopted this procedure in 5 cases, 4 of which were successful. There is, however, some risk of subsequent œdema of the vocal cords, a certain amount of which was present in the fatal case already referred to, although in this patient death was due to an independent cause. If the wound be extensive, almost or quite dividing the larynx or trachea, it is better to employ a tube, and the same rule should be followed if the larynx be opened in

the immediate vicinity of the vocal cords. Further, in wounds of the thyro-hyoid membrane, if the epiglottis be extensively injured, it is wise to perform the laryngotomy or high tracheotomy before closing the laryngeal wound entirely by sutures.

Should it be deemed advisable to employ a tracheotomy tube, I am very strongly of opinion that it should not be introduced through the suicidal wound in the air passage, but that a fresh vertical cut should be made at a lower level for its insertion. After suturing there is considerable strain on the wound, owing to the movements of the larynx and trachea, which cannot be kept entirely at rest, and the risk of yielding of the sutures is greatly increased if they be weakened by a portion of the wound being left open in front for the insertion of the tube, and if they be subsequently disturbed by the changing of the tube for purposes of cleaning. In two of the earlier cases the tracheotomy tube was introduced through the suicidal wound; in one (Case iii.) the tube was removed on the fourth day, but although the sutures did not give way, an opening into the larynx was left which did not heal for nearly a month; in the other case (Case v.) the trachea was completely divided, the ends being retracted for nearly an inch: they were approximated by sutures, and a tracheotomy tube was put into the anterior part of the wound; the tube was removed on the fifth day, but a few days later all the sutures gave way, cicatrical contraction gradually took place, and the man recovered with permanent stenosis of the trachea. I regret very much the incomplete recovery of this patient, for I have little doubt that if a fresh opening had been made for the tube he would have recovered completely, and would not have been condemned to wear a tracheotomy tube for the rest of his life. In two cases (Nos. iv. and ix.) a tube was considered advisable, and a fresh vertical cut made for its insertion: in both the tracheotomy wound healed rapidly after the removal of the tube, illustrating the fact that vertical cuts into the larynx or trachea as a rule unite much more readily than transverse cuts. It is usually unnecessary to make a fresh incision through the skin in order to open the trachea for the insertion of the tracheotomy tube. If the œsophagus or pharynx be injured, the opening must be closed completely by fine sutures introduced by means of a curved needle.

Attention should now be turned to the suturing of the wound in the air passage, a procedure requiring great care and patience. Full-curved needles held in a needle-holder will be most useful, and it will be found best to introduce all the sutures before tying any. The sutures should be prevented from penetrating the mucous membrane, but they should be made to include a considerable portion of the fibrous and cartilaginous parts of the tube. Having introduced as many sutures as are necessary to close the opening completely they must be tied, the posterior parts of the wound being first brought together. As to the number of sutures, in cases where the trachea is completely divided from eight to ten will be necessary; other cases will require a smaller number, according to the size of the wound. The material I have chiefly used for sutures in these cases is silk, recently sterilized by boiling; it is strong and reliable, and is only open to the objection that if suppuration takes place it may give

rise to subsequent trouble (Case x.). This disadvantage, however, is far outweighed by the disadvantages of catgut, which is unreliable when there is so much tension.

Having closed the air passage, the other parts of the wound must be treated in accordance with ordinary principles. The sterno-mastoid and infra-hyoid muscles are usually more or less injured and it is necessary to approximate the retracted end by sutures. Owing to the platysma muscle being divided transversely there is usually great inversion of the skin, which must be corrected before the edges of the wound can be brought in good apposition. Frequently there are several secondary cuts —I have seen as many as fifty—from the presence of which the edges of the main wound are often jagged and require trimming before they can be sutured satisfactorily. It will usually be necessary to insert a small drainage tube at one or both angles of the wound. Throughout the operation it is essential to adopt all antiseptic precautions, for it is only by care in this respect that the systematic suturing of the wounds of the throat has been rendered safe. If all precautions be taken it will be found that a very large proportion of the wounds will heal by primary union.

Subsequent Treatment.

If a tracheotomy tube have been used, it is well to place the patient in a steam tent for twenty-four or forty-eight hours. Provided that no bad symptoms arise, the tube may be removed with safety on the second, third, or at the latest the fourth day. In some cases I have retained the tube for a longer period, but I now regard this as unnecessary, and as calculated to prolong the period of recovery. The dressing on the wound will require frequent changing, especially if a tracheotomy tube have been used. The skin sutures, unless they are causing irritation, should be left *in situ* for ten or twelve days; if removed earlier there is risk of the scar giving way. Throughout the treatment it is essential to keep the parts at rest as much as possible, but I see no necessity for adopting the old method of bringing down the chin to the sternum; all that is necessary is to keep the patient recumbent with the head raised on an ordinary pillow, and to steady it by a band across the forehead and a sandbag on each side. One of the most important questions in the after-treatment is feeding. I am convinced that it is unnecessary in most cases to feed by a tube or by the rectum, and that the patient may with safety be allowed to swallow fluid food. In cases, however, where the epiglottis is injured, where the larynx or trachea is completely divided, or where the pharynx or œsophagus is opened, it is best to adopt rectal alimentation for two or three days.

The use of sutures is also advisable in all cases of suicidal wounds of the throat not involving the air passage, provided that the general condition of the patient is sufficiently good. Of the 25 cases of this description which came under my notice 21 were treated by primary suture, 19 of which healed by first intention; 1 was packed with iodoform gauze and allowed to granulate, and 3 died, all within a few hours of admission. The fatal cases were (1) a man, aged 43, who was in the last stage of

phthisis, who was moribund when admitted, and died an hour and a half afterwards; (2) a man, aged 35, who had lost a great deal of blood, and who died four hours after admission; and (3) a man who had attempted suicide during the delirium of pneumonia, and who died fourteen hours after his arrival at the hospital.

Summary.

1. Suicidal wounds of the throat should be treated by primary suture in all cases where the general condition of the patient permits.
2. Antiseptic precautions are most important.
3. If necessary, chloroform should be administered, and is perfectly safe.
4. Divided muscles should be sutured, and in bringing together the edges of the skin the inversion caused by the platysma muscle should be corrected.
5. The wound in the air passage should be completely closed.
6. In many cases it is quite safe to dispense with the use of a tracheotomy tube. If a tube be deemed necessary it should not be introduced through the suicidal wound in the air passage, but through a fresh vertical cut at a lower level.
7. Silk is the best material for suturing the larynx or trachea.
8. During the after-treatment it is unnecessary, except in certain special cases, to feed by a tube or by the rectum.
9. If the above methods of treatment be adopted, not only will a very large proportion of even dangerous and extensive wounds of the air passages recover, but the period of recovery will be greatly shortened, the patient will not be exposed to the same risks of secondary inflammatory complications, and he will be much less liable to the occurrence of permanent stenosis of the trachea or the formation of an aërial fistula.

I have to thank the honorary surgeons of the Manchester Royal Infirmary for their kind permission to publish these cases.

References.

[1] *Lancet*, 1892, vol. ii, p. 1427. [2] *Ibid*, p. 1532. [3] A case of wound of the common carotid artery and internal jugular veins in which recovery followed ligature of the injured vessels and transfusion of saline fluid has been recorded by W. T. Thomas, *British Medical Journal*, 1895, vol. ii, p. 1420.

Naso-pharyngeal Adenoid Vegetations.—"Dr. Greville Macdonald opened a discussion in the British Laryngological Association on the indications for, and the method of removal of, these growths, and formulated the rule that the necessity for operation depended not in the extent of the growths, but in the mischief they were causing. Dr. Dundas Grant preferred the upright position, and the administration of nitrous oxide gas in performing the operation."—B. M. J., May 22nd, 1897.

We have of late operated in these growths in seven cases, where the anæsthetic used was nitrous oxide, or a combination of this gas with oxygen, and distinctly prefer this method when practicable. The advantages are: 1. The upright position. 2. The lessened danger of drawing the blood into the larynx. 3. The comfort of the patient after the operation. 4. The greater safety to the patient. 5. The saving of the operator's time. The cases most favorable for operation by this method include those children where the naso-pharyngeal growth is not compli-

cated by enlargement of the tonsils, and does not present unusual conditions; and adults generally, as here, even if the tonsils are enlarged, there is space sufficient in which to work.

The anæsthesia passes off quickly, seldom lasting more than forty-five seconds. The operator must therefore know his work, but if expeditious he may be able to remove the tonsils as well, if necessary. W.

NAUSEA AND VOMITING OF PREGNANCY.—Dr. Edward P. Davis reports as follows in the *Am. Gyn. and Obstet. Journ.*: He is impressed with the frequency with which he found some organic change in the structure or dislocations of the uterus. Antiflexion of the uterus and a great increase in thickness of the cervix were the most constant anomalies found. These two conditions combined caused a great irritation of pelvic nervous system, resulting in a tonic spasm of the uterine and pelvic muscles. In most cases this spasm was a veritable "pelvic tenesmus." The nervous irritation radiated from the pelvis; a most secondary effect being an inhibition of the physiological functions of the digestive tract. The pancreatic biliary and intestile secretions are reduced to a minimum. A general sympathetic disorganization follows, and the case frequently becomes desperate. Pain is an almost constant symptom, but it is indefinite in locality, being distributed over the entire pelvic region and radiating to the epigastric and sternal regions. The author attaches great importance to the presence of liberated hematin, which is found in the feces and urine. This indicates a destruction of the blood.

The vomiting is most distressing and brings on exhaustion and emaciation in most cases.

The treatment of cases varies. When the nausea and vomiting are slight the patient will be greatly benefited by a sojourn in bed. The abdomen should not be confined by clothing; constipation is usually present and should be corrected by alkaline water, which will have a very favorable influence on the stomach at the same time. Careful nursing and dieting are most essential. If symptoms of auto-intoxication appear they may be met by stimulating the skin, kidneys and intestines to increased action. Lavage of the stomach is valuable, but it must not be performed too often, causing an increase of the gastric irritation. Mild and prolonged counter-irritation over the gastric region is useful. The skin must be mildly stimulated by warm sponging and frictions, alcohol, etc.

Sedatives must be avoided, as they rapidly disturb digestion and assimilation. Codeine is the best, when any are needed.

Local treatment is very important. The uterus must be placed and maintained in its proper anatomical position. In antiflection the uterus must be forced high enough to relieve any dragging down of the tubes. If replacement does not alleviate, cervical dilatation is indicated. Under chloroform the cervix may be dilated with the finger or instrument.

If no improvement follows these treatments an interruption of the pregnancy must next be considered. If the digestion is profoundly affected, causing progressive emaciation, and if the destruction of the blood is shown by escape of hematin, there can be no doubt of the wisdom of a termination of pregnancy. Dilatation followed by complete evacuation of the ovum and appendage must be performed.

THE ONTARIO MEDICAL ASSOCIATION.

This association held its seventeenth annual meeting in the Normal School, Toronto, June 2nd and 3rd, under the presidency of Dr. John Coventry of Windsor.

After routine business, Dr. J. L. Davison, Toronto, read a paper on Serum Therapy, which will appear in a later issue of this journal. He was followed by Dr. T. F. McMahon, Toronto, who gave the results of his experience in 70 cases. He was wholly in favor of the remedy. Early exhibition is necessary to secure the best results.

Dr. J. T. Fotheringham, Toronto, followed with an excellent paper on Modern Therapeutics, which will also appear in full in this journal.

At the afternoon meeting Dr. J. A. Williams, of Ingersoll, read a paper on Inertia of the Uterus following the use of chloroform, which will be published later *in extenso.*

In speaking to this paper Dr. Temple thought the length of the labor was the cause in this case. He advised the use of whisky or brandy as an intrauterine douche to stimulate contractions, never failing to use sufficient quantity.

Then followed the President's address, a thoughtful and interesting paper. After introducing his subject the essayist said:

"Where is the family physician of the past? A quarter of a century ago he was as much a social as a professional factor in family life. To-day, except in the country, he exists more as a 'holy memory' than as an active and trusted quantity. He may still be retained as an occasional family adviser, in a sort of abstract way, but his laurels are already on the brow of his juvenile coadjutor the hustling specialist This may be for the public weal, or the public woe, but the fact remains that the old and trusted family physician is passing into oblivion, appearing occasionally on the horizon as a mirage reflected by a Maclaren when he invokes the shades of Drumtochty. Have any of you considered the cause of this decadence? Is it for want of individuality in the man himself? Want of training? Want of application? Want of skill? Has the adoption of commercial standards, or mercenary methods, on the part of himself or his rivals anything to do with it?

"Whatever the causes are, we find him to-day split up into specialities, and the average family has taken on a sort of centrifugal action with respect to their ailments. The Major Domo has had a long standing hæmorrhoidal affection, and a 'Rectal Specialist' has him in hand. Madame, in the struggle of maternity, has received injuries which she thinks require the services of a Gynecologist.

"The elder son has a pain in his back and is doing his own 'doctoring.' The patent medicine advertisement is getting its deadly work in on him, and his pocketbook—and his back still aches.

"The elder sister has trouble with her eyes, and an alleged oculist is treating them.

"Another scion has a 'catarrh' so called. He is in the hands of a 'Throat and Lung Institute.'

"Another daughter has a friend who has an unrevealed trouble, and

goes twice a week to a doctor (?) who cures all his patients with electricity, and the young lady is easily persuaded to try him for—consumption.

"A younger brother has an unseemly eruption, and a 'Skin Specialist,' after exhibiting the pictures and the pickles in his office, promises him a 'skin like velvet,' but he will have to take medicine for six months.

"I am not prepared to account for this state of things, but I may be pardoned if I suggest that some of us are largely responsible for it ourselves.

"I am more than justified in making the suggestion that a few months spent in a post-graduate course every five years would be of incalculable benefit to him, and *Alma Mater*, when with benedictions and a diploma, she sends forth her neophyte to heal the sick, should reserve the appellation of 'graduate' in its broad sense, and the warrant to practice his profession should be made contingent on his return every five years for revision, instruction and further promotion.

"A short practical course with this object in view could easily be devised and carried out by every medical teaching body, and the result would be a boon to the profession, a benefit to the public, and the fractional tendency of the age would be greatly reduced.

"Did time permit, I would like to add my protest against the debasing practice of contract lodge work.

"Vampire never bled its prey more mercilessly than the pseudo-benevolent societies have the lodge-doctors. While wholly dependent on them for existence, the lodge committees have dictated a ridiculous fee for his services, and the plastic physician by his acceptance of it has signed an acknowledgment that he has joined the army of men who are doing business by giving 'a quarter off,' 'tremendous bargains,' 'slaughter sale,' or 'cut-rate tickets.'

"Nowhere is the medical profession 'on the down grade' so much as in pandering to this influence, and, left to their own impulses, as they have been in the past, with no authoritative mandate on the subject, a certain class of physicians continue to transgress. The very worst feature of the whole affair is that they are nearly a unit in declaring against the practice, and, believing it is subversive of the best interest of the profession, are willing to abandon it, but are deterred from doing so because some of their confreres are only watching the opportunity to slip into their shoes.

"You are all aware of the anomalous condition of the medical profession of the Dominion, inasmuch as a graduate of one Province cannot legally practice medicine in any of the others. Each Province has closed its doors, and erected itself into a close corporation.

"I think I am within the facts when I state that the standard of qualification is higher in Ontario than it is in any other Province in Canada, or any State of the Union, and, while we feel justly proud of this eminent position, you have not failed to notice that it amounts practically to an alienation of our confreres who are more leniently dealt with in passing the Rubicon.

"To my mind, the chief cause for this condition of things is that a yeomanry which has not its peer for intelligence on this continent has placed

educational and university matters in the hands of experienced and talented teachers, and the result is that these educators, keeping pace with advanced thought and methods elsewhere, insist on a standard for the Ontario student second to none in any part of the world if you take the standard as a whole for comparison.

"Now, while I would not advocate a lower standard for our own university graduates, I would suggest the formation of a Dominion Board—this may have been suggested before—whose duty it would be to adopt such a standard of examination as would admit properly authenticated graduates from all the Provinces. I would also give it discretionary power to grant certificates to members of the profession who had been years in practice, if they wished to change their residence from one Province to another. The certificate would be conditional upon a good showing as to habit and repute, and if thought necessary a lenient oral examination.

"This Board would take the place of the present Provincial Examining Board, and in a few years the standard of the several Provinces would be perfectly assimilated, the present bone of contention removed, and we would then be in a position to ask Great Britain and other countries to grant us registration, which we would reciprocate in kind."

SURGICAL SECTION.

Dr. L. Teskey reported a case of gangrene of the rectum. The patient, a man about fifty, had what appeared to be an ischio-rectal abscess which opened spontaneously near the anus. A day or two after a large slough of the rectum, six inches long, was evacuated. An inguinal colotomy was done, and the case was progressing favorably.

Dr. G. A. Peters read a paper on "Traumatic Lesions of the Spinal Cord," presenting two specimens.

Dr. T. K. Holmes, of Chatham, read a paper with the title, "Cases of Melancholia Cured by Removal of Interstitial Fibroma of the Cervix Uteri."

Dr. W. H. Harris reported a case of extensive sloughing following the use of the X rays, and presented a water color of the specimen. Drs. Peters, Spencer and Galloway joined in the discussion.

A PLEA FOR THE RADICAL OPERATION FOR HERNIA AMONG THE INSANE

was the title of a paper read by Dr. A. T. Hobbs, of London, and discussed by Drs. E. H. Stafford and T. K. Holmes.

THE VALUE OF ASEPTIC METHODS IN THE TREATMENT OF PUS CAVITIES,

by Dr. A. Primrose, of Toronto, was a paper dealing with various forms of infection which might occur from without, and showed the advantages to be derived by strict adherence to antiseptic rules. Thoroughly cleanse the cavity, and then allow no infection to take place. Discussed by Drs. H. P. H. Galloway, Sylvester, J. Wishart, Goldsmith, Starr, and Holmes.

MEDICAL SECTION.

Dr. W. J. Wilson read a paper on "The Treatment of Eclampsia." If indications were severe, labor should be induced when the child was not

viable. If the child was viable he advised temporizing, and using such remedies as would eliminate the poison from the system.

Dr. Sanson said he had seen cases of eclampsia occur in which there was no disease of the kidneys.

Dr. A. H. Wright thought too much attention had been paid to the kidneys. They were only attacked secondarily. The liver was attacked first, then the blood, the nerves and the kidneys. There was nothing better than magnesium sulphate in treating the preceding condition. For the seizure morphia was good in selected cases. Chloral was useful after the convulsions were over to prevent recurrence.

Dr. C. J. Hastings thought a distinction should be made between neurotic and toxæmic cases. Bleeding had been referred to, but he preferred the use of intravenous injections of artificial serum.

Dr. Mitchell said that in country practice there was a difficulty in getting a chance to treat a case until labor had come on. There was, no doubt, some virtue in bleeding.

Dr. J. S. Hart narrated a case of abscess of the lung.

Dr. A. McPhedran read a paper on "Cerebral Syphilis." He reported two cases. Treatment should be thorough and continuous. Prognosis varied with the length of time of incubation. Cases exhibiting local symptoms were more unfavorable than those showing general symptoms. Iodide of potassium should be administered in large doses intermitted with mercury.

Dr. Parsons read a paper on "Study of the Dried and Stained Preparations of the Blood."

The method of preparing the specimens of blood was carefully gone into and explained. The results of faulty technique and how to avoid these dwelt upon. The staining methods of Ehrlich and the various pathological changes found in different diseases minutely given.

Dr. James Samson, of Windsor, read a paper entitled

TWO UNNAMED DISEASES.

The title was correct so far as the association was concerned, yet with regard to the second part of the paper it was not. The speaker recited the history of twenty-five or thirty cases of a disease which had occurred in his practice. The symptoms pointed somewhat to the "milk sickness" of the Southwestern States. They all occurred in one section of the country. There was nausea, fever, diarrhœa, etc., which pointed to poisoning, and in one or two cases which had recently occurred there were strong suspicions placed. The results he had obtained were very good as compared with the few cases which he believed surrounding physicians had seen. There had only been one post-mortem, and that imperfect. If any members had had a similar experience he would like to hear from them.

The second part of the paper dealt with the relation between idiopathic peritonitis and appendicitis. He said some cases appeared to be of rheumatic origin.

Dr. W. J. Wilson said he had seen cases of rheumatic peritonitis where the points of tenderness had moved. These cases had got well under anti-rheumatic treatment.

Dr. H. C. Parsons asked if the first series of cases were not typhoid.

Dr. Samson said there was nothing to make him think there was typhoid.

Dr. G. Gordon said there must have been some gastro-intestinal poison.

Dr. H. B. Anderson said there were cases of peritonitis due to the infection by bacteria. With regard to rheumatic peritonitis, the term must necessarily be indefinite until we know the cause of rheumatism.

Dr. J. S. Hart said he had had a series of seven cases of peritonitis at one time, whether merely a coincidence or due to infection.

Dr. W. Oldright said that influenza had sometimes taken a peritonitic form.

EVENING SESSION.

Dr. George Bingham, of Toronto, opened with a paper dealing especially with the various operations for inguinal hernia. The merits and demerits of McEwen's, McBurney's, Halsted's, and Bassini's operation were explained, and shown by lantern slides on a large screen. As in the experience of every operator, children gave the best results, and the larger number, relatively operated upon, the less the percentage of deaths. In any event the percentage of deaths should be less than one. As to recurrences such are sure to take place, and a radical cure should never be claimed until at least one year had gone by. Femoral, umbilical, and ventral hernia were touched upon.

Dr. J. Wishart, of London, followed, and said he had been operating for some years. He began with the McBurney, but was led to abandon this on account of the large percentage of recurrences, 25 per cent. to 30 per cent. No operation seemed at the present time to be the ideal one, but Bassini's seemed to give the best results. Every operator would find, however, that cases were to be judged on their merits, and the various operations modified as the operator chose. As to sutures, silk was by no means a good material for buried sutures. Kangaroo tendon gave the best results with the speaker.

Dr. A. Primrose, of Toronto, said it was not safe to take the statistics of any one man, and very unsafe to be carried away by enthusiasm for a particular form of operation. Every specialist had good figures to show.

Dr. Bingham closed the discussion.

The order of business was then suspended to elect a Nomination Committee, so that a report could be had before adjournment.

Dr. N. A. Powell, of Toronto, spoke on

THE COTTAGE SANITARIUM TREATMENT OF PULMONARY PHTHISIS.

Experience proved beyond doubt that this plan of treatment was the best we have at the present time. The results obtained at Saranac Lake by Dr. Trudeau, where about 30 per cent. of permanent cures, and 75 per cent. materially benefited, could not be equalled by any other plan of treatment at the present time. Several lantern slides were shown of the cottages at Saranac Lake, and of the sanitarium near Gravenhurst, which will be opened in about two months. The speaker hoped the profession of Ontario would heartily support the work, and not get the mistaken notion that it was a place for our consumptives to go and die.

Dr. R. G. Rudolph, of Toronto, then read a paper on

THE EFFECT OF GRAVITY ON THE CIRCULATION.

Dr. Gilbert Gordon, Toronto, opened the discussion on Obstetrics with a paper on the "Albuminuria of Pregnancy." The writer suggests that since one attack of eclampsia seemed to render the person to some extent immune, it may be possible that some toxine is the cause. While not taking up the treatment particularly, he believed that better results could be obtained by paying strict attention to diet. Keep the bowels open and the skin acting freely.

Dr. Bray, of Chatham, said albumen was not always found in the urine of eclamptic cases: it was very frequently there. It might not be found in particular instances, or at some examinations, but if frequent examinations were made it would be found in a majority of cases. Two propositions seemed to the speaker to be important: (1) All primiparæ should consult the physician at least three months before delivery; (2) frequent examinations of the urine should be made. One attack has not necessarily given immunity, although the cause may be a toxine.

Dr. H. P. Wright had treated three cases of eclampsia within the past year, with two recoveries. He had bled freely in both cases. Morphia and atropia had been used, and he considered that probably no better drug was available than morphia in properly selected cases. This must, of course, be followed by sedatives, as chloral. Attention must be paid to excretory functions.

Dr. T. K. Holmes, of Chatham, said Bouchard found several toxines in the blood, and our treatment should be directed against the particular toxine which the symptoms of the attack pointed to. Immunity may occur in some cases, but he did not think his experience warranted that conclusion. After all, treatment was the most important. In suspected cases the urine should be examined every two or three days. Would not use morphia in all cases. Diaphoresis, a very important factor, must be attended to. Careful diet; milk diet, if a severe case. Two years ago the speaker reported forty-three cases, in nine of which he had induced labor with excellent results.

MEDICAL SECTION.

Dr. Kitchen was appointed to the chair.

The following papers were then presented in order: "Some Considerations on the Management of Pregnancy," by Dr. E. E. Harvey, Norwich; "Hydrotheraphy of the Skin in Early Phthisis," by Dr. Edward Playter, Ottawa; "The Treatment of Gastro-Intestinal Catarrh in Infants," by Dr. H. D. Livingstone, Rockwood.

Dr. H. B. Anderson, "Pneumococcus Infection."

Dr. H. J. Hamilton, "Hyperchlorhydria."

Dr. Price-Brown, "Intra-Laryngeal Mycosis"

In the Surgical Section, Dr. J. F. W. Ross read a paper on "Some Peculiar Phases of Appendicitis"; Dr. Meek, of London, on "Cystic Tumors of the Ovary, Complicating Pregnancy and the Puerperal State."

Time was not sufficient for the reading of all the papers which had been prepared, consequently the following were laid on the table:

"The Treatment of Puerperal Eclampsia," by Dr. A. R. Hawks, of Blenheim.

"Tuberculosis of the Liver," by Dr. R. W. Whiteman, of Shakespeare.

"The Injurious Effects of our Overwrought School System on the Health of Public and High School Pupils," by Dr. R. Ferguson, of London.

"Septicæmia a Preventible Complication of Labor," by Dr. Charles J. C. O. Hastings, of Toronto.

"Pain and Some of its Aspects," by Dr. Campbell Meyers, of Toronto.

"Hæmorrhagic Pancreatitis," by Dr. E. B. Shuttleworth, of Toronto.

The luncheon at the R.C.Y.C. was a very enjoyable affair.

The Clinics at the Hospital were fairly well attended, and the visitors expressed their gratification at the kindness shown by the Superintendent, Dr. O'Reilly.

In the evening the Committee on Nomination brought in their report, which was adopted as follows: President, Dr. W. Britton, Toronto; first vice-president, Dr. Jas. Samson, Windsor; second vice-president, Dr. H. P. Wright, Ottawa; third vice-president, Dr. J. Wishart, London; fourth vice-president, Dr. J. Mitchell, Enniskillen; general secretary, Dr. J. N. E. Brown, Toronto; assistant secretary, Dr. E. H. Stafford, Toronto; treasurer, Dr. Geo. H. Carveth, Toronto.

Dr. Barrick presented the report of the Committee on Legislation, in which it was urged that:

(1) The Legislature appoint a committee to supervise the publication of the various quack remedies so widely advertised in our secular press.

(2) That county health officers be appointed instead of the township officers as now in vogue.

In moving the adoption of the report, Dr. Barrick said that it was a shame poor, sick people were allowed to be so gulled by the various nostrum vendors, by their lying advertisements. People who were well and able to properly take care of themselves were guarded by health officers at almost every point, but as soon as they took sick they were left to be preyed upon by every quack who could write a plausible advertisement.

Dr. N. A. Powell thought no demand had arisen for county health officers, and hasty action might prove detrimental. The present system gave a medical man at the very beck of any township council for advice, etc. It would entail hardship if a distance had to be travelled, and prompt action could not as readily be taken.

Dr. J. W. Smuck said that as a township health officer he found great difficulty in doing any efficient work. General practice was our daily duty. There was not sufficient remuneration given for the work, and most people thought it was paying $15 or $20 per annum for nothing. County officers who could devote their whole time to the work could give laboratory facilities, a depot for antitoxin, etc., and would collect valuable data in time with regard to morbidity and morbility, the supply of water, disposal of drainage, etc., and the effect of soil, elevation, on the health of the community, and so on, which would be very valuable.

The Committee on Necrology had to report the death of the following members: Dr. D. Bergin, M.P., of Cornwall; Dr. F. Rae, of Oshawa;

Dr. W. T. Aikins, of Toronto; Dr. W. T. Harris, of Brantford; Dr. J. W. Roseburgh, of Hamilton; Dr. J. B. Baldwin, of Toronto; Dr. M. J. Donovan, of Toronto; Dr. Ridley, of Hamilton; Dr. McCargow, of Hamilton; Dr. R. Gowland, of Hamilton.

Dr. Machell, of Toronto, introduced the question of the establishment of the

VICTORIAN ORDER OF NURSES,

by the following resolution: "That in the opinion of the Ontario Medical Association the proposal to found a Victorian Order of Nurses is an unnecessary and impracticable scheme."

A discussion on this scheme, which was inaugurated by Lady Aberdeen, was at once begun. Every member of the association who spoke made it clear that, in his opinion, the motives which had suggested the proposal were most admirable, but the opinion was freely expressed that the whole scheme was utterly impracticable.

Dr. Machell said that it would be the means of doing untold harm to the people of Ontario—in fact, to the whole Canadian public. He argued that if half-trained nurses, such as he implied would be employed, were sent out into the sparsely-settled districts, there would be a vast increase of deaths from various illnesses. He especially instanced the evils which would follow from the attendance of such nurses in cases of child-birth. He pointed out that the medical statistics of England showed that the rate of death in midwifery was doubled through the employment of incompetent nurses, and he predicted that the same results would follow here on the establishment of an order of nurses such as the one proposed, where every particular in connection with the scheme was so crude and ill-digested.

Dr. Fotheringham pointed out that certain clauses of the official pamphlet advocating the scheme were a direct insult to the medical profession, in that they intimated that the rural doctors of this province were derelict in their duty, and that more men of the Dr. McClure stamp were needed. He considered that the rural physicians were intensely solicitous in the discharge of their duties, and the expressions used were most gratuitously insulting to this branch of the profession.

It was suggested that the association, in giving expression to its views on this matter, should do so in a very deliberate manner, and give reasons for opposing the scheme for the founding of an order on the lines laid down in the pamphlet.

A committee, consisting of Drs. Machell, Fotheringham, Mitchell, McPhedran, and C. J. Hastings, appointed, which brought in the following resolution: "After careful consideration of the scheme for the founding of a Victorian Order of Nurses, so far as its details have been made public, the Ontario Medical Association desires to express its full appreciation of the kindly motives which have prompted the movement, but feels that it would be neglecting a serious public duty if it failed to express its most unqualified disapproval of the scheme, on account of the dangers which must necessarily follow to the public should such an order be established."

The resolution was unanimously carried.

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Editorial.

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING, 1897.

Since our last notice of what is being done in regard to the approaching meeting, considerable progress has been made towards the completion of the arrangements, more especially in the work of the excursion, printing and publishing, museum, and local entertainment sub-committees. The preliminary programme has been printed and distributed, some 16,000 copies having been sent to members of the Association. It appears in the shape of a pamphlet of some 50 pages neatly printed on heavy paper, with an artistic cover in colors. It is plentifully illustrated with lithographs and wood-cuts representing some of the chief points of interest in Montreal, Toronto and Quebec, more especially the university and hospital buildings. The text briefly refers to Montreal, its medical institutions and hospitals. Several pages are devoted to a description of how to reach Montreal from Europe, referring to some of the advantages of the St. Lawrence route as compared with that to New York, on the magnificent liners landing there from Liverpool and Southampton. Quebec and the picturesque St. Lawrence route are referred to in glowing descriptive language so ingeniously woven as to give at the same time a bird's-eye glimpse of the early history and characteristics of this Province.

Reference is made to the hotels and lodging accommodation in Montreal, and some useful hints to travellers are given in regard to securing berths, luggage, clothing, United States and Canadian money, etc. The excursions arranged for are described and their attractions set forth in a way which must arouse the liveliest anticipation among those whose privilege it will be to take advantage of the low fare and enjoy the grand scenery of the St. Lawrence, the Saguenay, Lake St. John, or the grandeur of the Rockies. At the end is a note on the game laws and a table indicating the open season for hunting various kinds of game. The whole pamphlet is exceedingly well and tastefully gotten up, reflecting credit on the

printers and engravers and those whose good judgment is displayed in the appropriate selection of the text. The distribution of this programme at this early date throughout Britain will doubtless exert a favorable influence in the way of giving necessary information to those contemplating the trip, and may in some instances constrain the undecided to avail themselves of the treat that is in store for those who attend the 65th annual meeting. The local guide, which is in active preparation, will be on a more elaborate scale and form a volume of over 200 pages: it will be distributed at the meeting.

Prof. Adami, who has been indefatigable in the preparations for the meeting, left on the 22nd of May for England and will be absent some six weeks. He has been delegated by the Executive Committee to visit the various branches of the British Medical Association in England, Scotland, and those in Dublin and Belfast, advising with them and giving all instructions required to facilitate arrangements for the journey, and at the same time endeavor to secure as large a contingent from across the Atlantic as possible. He will also confer with and assist the English Secretaries in regard to securing papers for the meeting, and members to take part in the discussions. At the same time, his presence in England will be of the greatest service to the General Secretary, Mr. Francis Fowke, and Dr. Saundby, the President of the Council, as he will be able to advise with them on all matters pertaining to the various details connected with the arrangements for the meeting on this side. The President-elect, Dr. T. G. Roddick, M.P., has left to visit Ottawa, Toronto, and London, with a view of furthering matters connected with the branches of the Association there. In the latter city the attempt to form a branch has not been very successful, and we hope Dr. Roddick's visit will result in organizing in this field of abundant material an active and live addition to those already existing in the Dominion.

The Montreal branch has made remarkable strides in its membership during the past year, the number having increased from seventy to 243. Dr. Roddick will also, while at Toronto, confer with the local Executive Committee of the British Association for the Advancement of Science, and endeavor to secure their co-operation in regard to excursions.

The transportation difficulties, which at one time threatened to prevent a number from coming, are being gradually overcome. The steamship *Lake Ontario*, which leaves Liverpool on the 21st of August, is a large and commodious vessel having accommodation for 150 passengers, most of which is taken up by members.

The Allan Line ships which sail on the 5th, 12th and 19th of August will bring over a number, and it is expected that the Peterson Line will dispatch a vessel on the 20th of August, which would meet all requirements. It will be part of Prof. Adami's mission to see that ample transportation facilities are afforded to all who desire, and he will make any special arrangements that may be considered necessary.

The local Entertainment Committee, of which Dr. Girdwood is chairman, will have a full and attractive list of entertainments provided for the guests, details of which we will give later. A committee of ladies is being organized to assist the sub committee. The Golf Club has arrang-

ed for a series of matches to be held at their magnificent new grounds at Dixie, to take place on Thursday September 2nd, and a cricket match is being arranged for among the Montreal clubs. Dr. Roddick has written to all the branches of the Association, both English and Colonial, requesting them to send delegates; answers have already been received from a number, most of them stating that the matter will be placed before the next meeting of their Councils.

THE VICTORIAN ORDER OF NURSES.

An editorial pronouncement upon a subject like this is a delicate matter. This is evidenced by the ludicrous efforts of the lay press, especially of some of our leading dailies, to sit on two stools. It is not pleasant to be torn in opposite directions between the wild horses of deference to one whose requests, as the representative of Royalty, are tantamount to commands, and respect to the demands of common sense. The position of a professional journal in the premises is much to be preferred, as the subject can be treated *ex cathedra*, apart from questions of patronage or favor of high places. The action of the Ontario Medical Association at its recent meeting seems to have stirred up the supporters of the scheme to fresh effort. It does seem so ungracious to cast a damper upon a scheme so manifestly unselfish in its inception and objects that nothing but a sense of public duty could have prompted so powerful an association to speak as they did in condemnation of the scheme. That the profession at large are in sympathy with the association, and doubtful of the possibility of success for the scheme, is becoming daily more abundantly evident. It is to be hoped that the promoters of the scheme will be able to realize that the medical profession, by virtue of superior technical knowledge and years of actual experience of the difficulties sought to be removed, must be, in the very nature of things, the best judges; and self-interest cannot be charged against us in the position we take. It is exactly as if we were to say: "Your Excellency, we have been for years engaged in a steady battle against pain, poverty and disease among the poor and the isolated. We have done this without hope or prospect of reward. We believe that with all our defects any substitute will prove to be inferior, and that the mortality among the dependent classes will be increased, as statistics from so rich and old and densely-populated a land as Great Britain abundantly prove. We, therefore, pray you to allow us to sacrifice time and strength and money in this way, as you will admit we have done in the past; for we would rather redouble our sacrifices in the public interest than allow the public health to suffer by the substitution of services inferior to our own." Now this may seem a quixotic plea, a piece of fine writing; but it is honest, and not self-adulation. We believe it to be a literal unvarnished expression of the attitude of the profession as a whole to the scheme. If we were asking for the saving to us of a lucrative preserve from which it was proposed to exclude us we might be fairly charged with self-interest.

And what of the vested right of training schools already in operation,

and of nurses already out, quite as capable as any of the new order could possibly be, and probably more so? There could be only one result, the pauperizing of a public already sadly inclined in that direction, the discouragement of the nurses already so efficiently doing their work, the swamping of institutions such as the various nursing-at-home missions of our more densely populated areas, an utterly useless and unprofitable duplicating of effort and organization in fields already well occupied by the various sisterhoods and orders of both Catholic and Protestant religions and charitable bodies, and more than all this, an absolutely inevitable failure to cope with the difficulties of time and space now existing in the sparsely settled regions of our prairies and forests any more effectually than under the existing system. We wish to avoid personalities and narrowness in our discussion of the scheme, but the *onus probandi* lies with its supporters, and we ask them to show how, when a settler's wife, thirty or forty miles from the nearest doctor or nurse, comes to be confined, help is going to reach her any more certainly or speedily than now; or how with hospital and other facilities so profusely provided by the provincial and local authorities as they have come to be within the last ten years in Ontario, they are going to better the conditions. One can understand how it might help the poor of our larger cities, if they really needed more than is now given them; but how they are going to help the isolated pioneer does not yet appear. Most certainly at least this does not yet appear in any of the printed matter sent out from Ottawa, for anything so inchoate and lacking in detail, so abounding in lofty and worthy sentiment and so lacking in *savoir faire*, particularly when launching a scheme of such magnitude upon a country so lacking in developed wealth, it has never been our fortune to read.

If the scheme were one for the supporting in outlying regions of trained medical men, whose soul and bodies could be kept together by the assistance they got from the Order, after the manner of the various Augmentation and Sustentation and Home Mission schemes of the churches, we could readily see how the poor of our backwoods would benefit, for medical men could be placed in regions now without them. But the only result of the proposal would be the authorization of more or less efficiently trained nurses who would, of course, on many occasions be invaluable aids to the medical men, but who would much more frequently be called upon to act without him, that is, to supplant him. More especially, as one can fairly gather from the announcement of the Order, would this be found to be the case in obstetric practice: and no one who has seen; for instance, the facts and figures given recently by Dr. Cullingworth in the *British Medical Journal* on the prevalence of septicæmia in childbed in certain districts in Great Britain would venture to say that the death rate in confinement cases would not rise if the management of these cases were entrusted to any not specially trained. We feel sure that the scheme is doomed to failure, partly from its lack of definiteness and practicality, partly from the fact that it will not meet any really urgent need, and partly from an uneasy consciousness that it was originated by a few well meaning, amiable, but somewhat meddlesome *doctrinaires*.

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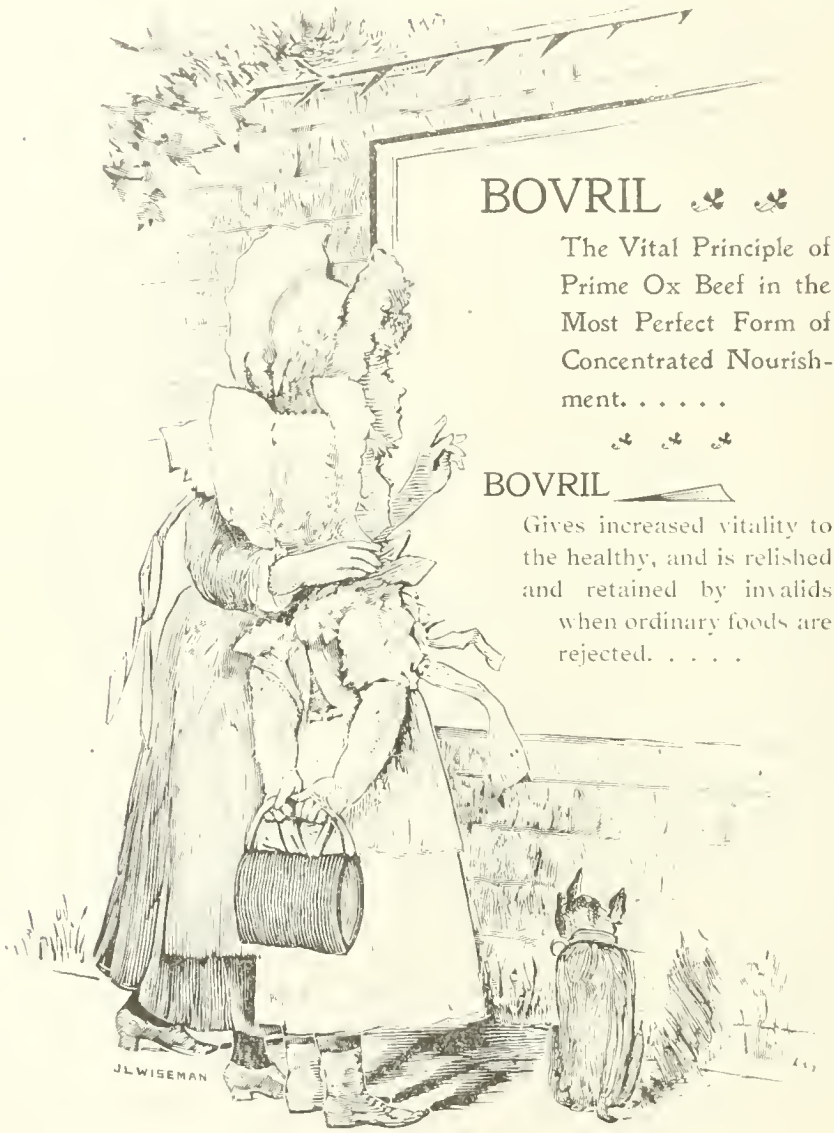

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PALLIDA MORS EQUO PULSAT PEDE.

We present to our readers photo-engravures of two of Toronto's most eminent and most useful men, lately fallen by the wayside, one in the full vigor of strength and apparent health, the other well stricken in years, though till quite recently in full practice and active work. Dr W. T. Aikins died May 25th, at the ripe age of 70 years, having been born at Burnhamthorpe, Peel County, in June, 1827.

His early education, both lay and professional, was got in Ontario, but later he graduated with distinction at Jefferson Medical College, Philadelphia.

He practised in Toronto from the close of his professional studies till the first breakdown in health occurred about three years ago. Dr. Aikins held some of the highest positions in the gift of the profession he so long adorned. He was surgeon to the Central Prison, and for years to the Toronto General Hospital.

Hundreds of medical men in all parts of the world will look back to the instruction they received from him, both practically in the theatre of the hospital, where they will remember him as a skilful, fearless, and yet most sympathetic and patient surgeon: as well as theoretically at the old Toronto School of Medicine, of which institution he was for nearly twenty years the honored head. Forty years of active, zealous, kindly work, done in the interests of humanity is a goodly record. Our readers can imagine the thousands of kindnesses done, the life-long going about doing good. His example was all for good, and his memory will long be kept green in the hearts of thousands of loving friends.

Dr. Frederick W. Strange was of English birth, but had made Canada his home since 1869, when he purchased the practice of Dr. W. B. Geikie, at Aurora. His life was a busy and useful one. Political life had an attraction for him, and he sat in Ottawa from 1878 to 1882 as member for North York. In militia matters he was greatly interested. He was an ex-Captain of the 12th York Battalion, and of the Queen's Own. He took part in the Northwest Rebellion as surgeon to "C" company.

He was surgeon to the Toronto General Hospital. He held many other appointments, showing the high esteem in which he was held in public life.

In private life he was known and loved as the kindly, generous, warm-hearted gentleman. In the practise of his profession, the welfare of his patients was ever before self, both as to personal ease and the financial side of the question. Generous to a fault, his services to the poor will long be remembered by that class in this city. It is safe to say that there was not, at the time of his death, a more popular doctor in the city, both in the profession and among the laity.

Thousands mourn his loss to day, and will miss for many a day the kindly word, the generous hand and skilful attention of Toronto's most popular physician. We are sure our readers will appreciate his photo the best we can procure, for very few are in existence.

WILLIAM T. LUSK, M.D.

The medical world has received a great shock in the announcement of the death of Wm. T. Lusk, on June 12th, of cerebral apoplexy. He was born at Norwich, Conn., in 1839, and was at the time of his death in full work, and at the zenith of his fame.

For several years he was editor of the *New York Medical Journal*. Our readers will remember him as a scientific and gifted writer in the medical journals of the day, as well as for his Science and Art of Midwifery, published in 1881. His contributions on the prevention and treatment of puerperal fever are widely known.

He held many prominent positions in his profession, and was a man who will be missed from the ranks.

DR. J. LEWIS SMITH.

Another great man, in the person of J. Lewis Smith, has gone over to the majority. He died June 9th of exhaustion and cardiac disease. For several years his health had been failing, and the shock of a runaway accident a few months since gave such an impetus to the disease that he succumbed on the above date.

Born at Spafford, N.Y., 1827, he graduated at Yale in 1849, and from that time on devoted his entire energies, and talents of a high order, to his beloved profession. He early showed a predilection for children's diseases, and as a gifted author in that line we all knew him.

Among the various positions held by him we may note: Professor of Diseases of Children in Bellevue Hospital Medical College: Attending Physician to Charity Hospital, the New York Foundling Asylum, and the New York Infant Asylum: and Consulting Physician to the Bellevue Bureau for the Relief of Out-door Poor, Department for Diseases of Children.

His death leaves a blank which cannot be easily filled.

THE ONTARIO MEDICAL ASSOCIATION.

The condensed report of the late meeting of the above association will be found in another place in this issue. The meeting was very successful, and demonstrated, we think, the advisability of its being held permanently in Toronto. The papers read were a good deal better than those usually presented. This remark may seem stereotyped, but in truth the quality of the material put before the association is year by year improving. There is less compilation from text books and more original thought. While much of the practical comes from the older members of the society, men who have grown grey in the active practice of medicine and surgery, the theoretical and scientific side of the subjects brought forward are well and ably handled by the rising generation of younger

men in the ranks. The outlook for medicine in Ontario is very hopeful with such young men as we have with us to fill the places vacated by the older members, many of whom, unhappily, are passing over to the majority. True, we have not the large endowments for scientific medicine which are available in Quebec, and in many other countries, nevertheless, with a zeal and perseverance truly admirable some of our young men are doing original work in the purely scientific field of the profession. This is bearing its fruit in the teaching of our medical colleges, and as a consequence in the increased scientific outfit of our more recent graduates. When, therefore, we say that the outlook is hopeful, we have good reason for the hope that is in us, and such meetings as the late one of the Ontario Medical Association cannot but do incalculable good, both to the older members, who are by them kept in touch with what is going on in the laboratory, and to the younger scientific, and perhaps too sanguine, members, by mental attrition with the solid, the proved, and the practical.

We spoke of the quality. Now as to quantity, we think the committee who had charge of the papers would do well to curtail the number of papers put upon the programme. It is not encouraging to a young man to prepare a paper, giving of his best mental strength, for the elucidation of some subject about which he has or thinks he has something new, valuable, or interesting to say, and then have that paper "read by title." It creates dissatisfaction and more or less want of interest in those members who are unfortunately so tabled.

We should suggest fewer papers and more time for discussion. The five minute rule as to discussion has its good points, but also its bad ones. Five minutes is too long to listen to some men, and especially to those who make it a point to discuss each and every subject that comes up. These men are a nuisance, just as flies and dust are, but they must be borne. On the other hand, five minutes is too short for a man who has been named on the programme to take part in a discussion. We were indeed glad to note the choice of the president, Dr. Britton, of Toronto. The association has had a long line of well-known men as presidents, and we are certain that this year's choice will prove both acceptable to the members individually and beneficial to the Society.

THE SEMI-CENTENNIAL OF ANÆSTHESIA.

We have just received the transactions of the Semi-Centennial of the first public demonstration of Surgical Anæsthesia at the Massachussetts General Hospital of Boston, October 16th, 1896.

We note the names of a number of prominent Americans among those who delivered addresses on that occasion. Among them Ashurst Welsh, McBurney and Weir Mitchell.

The honorary committee consisted of a number of men whose names are familiar to everyone. The occasion was a great one, and greatly, yet modestly, the leaders of the profession in America rose to it.

The number of invited guests was large, and we note among them the names of celebrated physicians and surgeons the world over.

We are not a little pleased to see a letter from one of our own collaborateurs. It is, we think, worthy of reproduction here, as showing the honor done to the Canadian profession, and in itself expressing our sentiments regarding so great an event:

TORONTO, September 30th, 1896.

DEAR DR. WARREN,

The idea of celebrating in every hospital the fiftieth anniversary of the first public demonstration of surgical anæsthesia is a happy conception, and I should be delighted to attend the proposed function if it were possible for me to get away at the time. To no city in America is surgical science a greater debtor than to your own, and I would gladly take part in the proceedings tending to the acknowledgment of debts that we can never hope to pay. There are no boundary lines limiting the spread of such beneficent discoveries as have been given to the world by the members of our profession in Boston. When I think of what the discoverers of anæsthesia, of what Holmes and Bigelow and Bowditch, and those who have borne and now bear the honored name of Warren, have done for us, our obligation weighs heavily, and we can but rejoice that through Lister and through the grand traditions of British surgery we are able in part to make a return. I wish you heartily a celebration worthy of the occasion and of the men who take part in it, and am,

Yours sincerely,

N. A. POWELL.

HOSPITAL HOUSE STAFF.

The following gentlemen have been appointed by the Board as resident physicians to the Toronto General Hospital for the coming year:

From Trinity: Drs. J. S. McEachren, F. A. Scott, R. W. Large, and R. W. Perry.

From Toronto: Drs. Nichols, Mullen, Bryce and Maybury.

To the Children's Hospital: Drs. Graham and Foster.

OIL OF TURPENTINE AS A REMEDIAL AGENT.—Dr. J. B. Walker, of Philadelphia, read a paper *(Med. Rec.)* on this subject. He dwelt especially on its effects in catarrhal affections and as a hæmostatic when the lesion is in the mucous membrane. In gastric ulcer, whether for its influence on the ulcerative process or as a hæmostatic, he said it ranks *par excellence* both for efficiency and acceptability to an irritable stomach. Given in small doses, from two to ten drops in water sweetened with the olæosaccharum anisi, each dose prepared as taken, its acrimony is obscured and the most sensitive stomach will retain it. In catarrhs, subacute or chronic, whether in stomach, bowels, bronchial tubes, or urinary tract, as a stimulant-alterative, reaching every mucous membrane of the body, either in its ingestion or elimination, its virtues are invaluable, modifying secretion and influencing cell nutrition directly. In the winter coughs of the aged and infirm, its general stimulant action is an advantage additional to its local effect.

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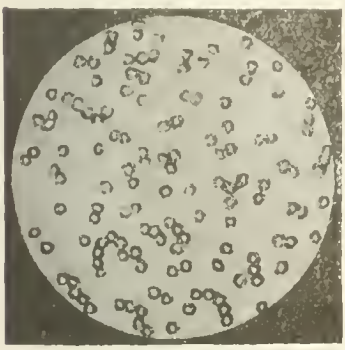

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Dr. Hare, editor of the System of Practical Therapeutics, has been led to add a new volume to it by the numerous requests received from those who have appreciated the usefulness of the original work, and who desire to see the same plan extended to cover the advances of the past few years. To ensure complete freshness of material Dr Hare has assigned the various subjects to a new corps of authors who have dealt with them in their entirety, devoting, however, most attention to the later advances. This arrangement renders the new volume quite as serviceable to those who have not as to those who have the preceding three. As the title implies the System of Practical Therapeutics deals thoroughly and exclusively with the essential part of medicine, namely, treatment, and it may be added that it is the only work of its kind ever issued.

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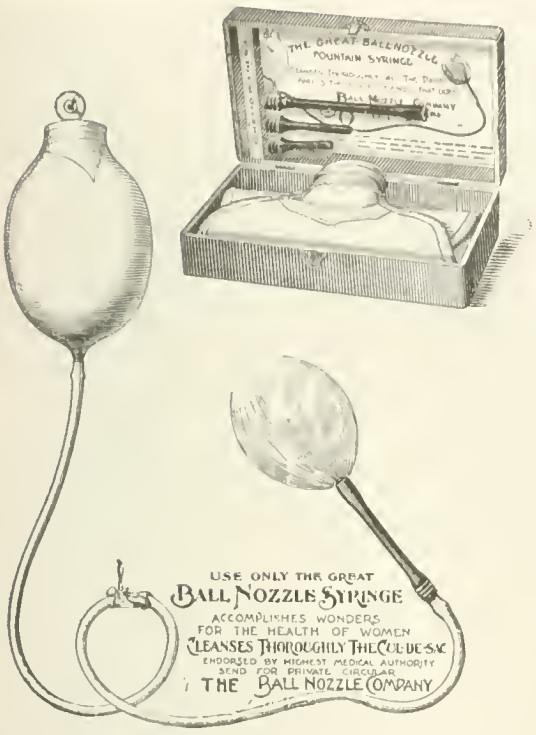

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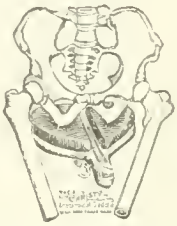

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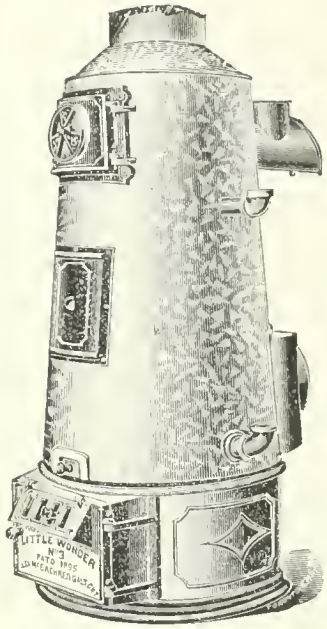

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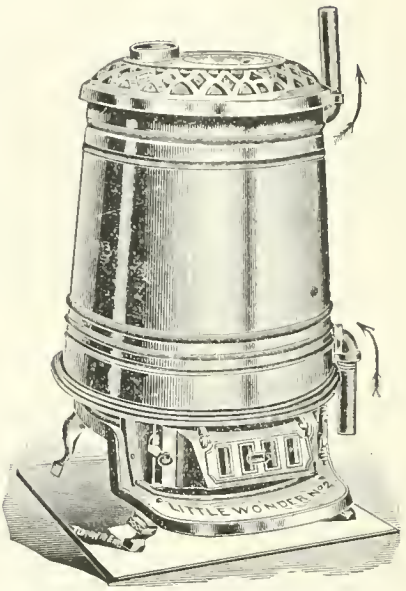

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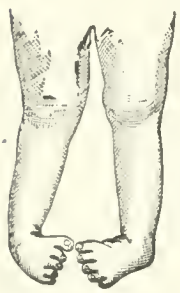

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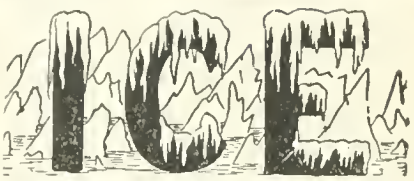

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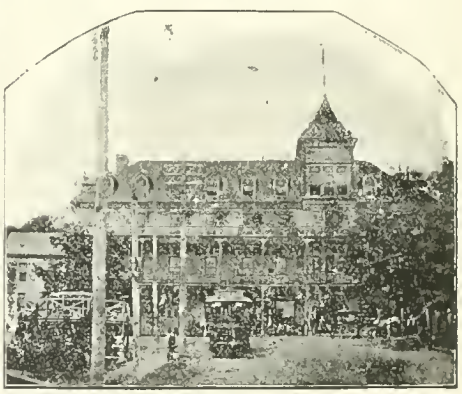

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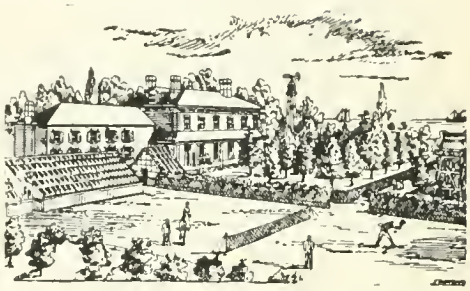

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